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THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment, and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical, and Nursing Services

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NATURE, VALUE, AND NECESSITY OF TEAM-WORK IN A HOSPITAL[1]

Present Great Need Is For Organization—Hospitals Moving to the Country—The Question of Interns—Reports and Records—Pay Clinics in Step With Modern Ideals

By CHARLES H. MAYO, M. D., Rochester, Minn.

THE present program has exemplified the thought that the spirit of the age is best expressed in organization, and indicates the gradual approach to a rational socialism.

The history of hospital development takes the student back to centuries before the Christian era. After this period the idea became greatly broadened, although it was not until about 1500 A. D. that the true usefulness of hospitals was recognized.

Hospital Standardization.—The necessity for hospital standardization has been discussed in various medical meetings for several years, with the annual appointment of committees for reports, and much good has been accomplished from the publicity. The American College of Surgeons has, of necessity, taken up the work of standardizing hospitals, and all institutions which desire to be recognized must come within state requirements. Such investigation and classification of hospitals will require several years. The greatest help is expected from this association of Catholic hospitals now holding its second annual meeting.

Hospital Location.—Hospitals in Europe have been more wisely located than in America, having a setting in spacious grounds, where they secure the full benefit of air, quiet, and sunlight. In this country we have built in the most congested areas, lacking every hospital need except plenty of the poor. In such localities there should be only emergency institutions or automobile ambulance stations. Hospitals situated in cities should have at least a country convalescent home, where ambulatory patients may recover. Automobile transportation of the sick is now so comfortable and rapid that distance is no longer a factor to be considered in the location of hospitals.

In modern times hospitals are quite dependent on their corps of nurses, whose ability, training, and attitude toward the work is essential for efficiency. In Europe the social standard of nurses was for a long time very low. They were recruited from the lower classes, even from prisons. Fortunately, in America the profession of nursing was started on a higher plane, and our nurses excel those of the world in intelligence, education, and culture. In Europe the nursing profession was modernized and reorganized in the middle of the last century through the necessities of war, and the present war is rapidly improving the standard of hospital attendants in the countries involved.

A nurse's training is a liberal education in itself. The instruction in cleanliness, the knowledge and treatment of disease, and especially the instruction in preventive medicine and domestic science, are valuable not only to the family, but also to the community. Thus it is that the ranks of nurses are largely depleted by matrimony. A training school for nurses is essential at least for all large hospitals.

Efficient trained sister nurses are of great value in general nursing. They are permanent general supervisors over the nurses in the training school, and have a personal interest in maintaining the hospital standard.

The interns are a recognized factor in hospital organization. They are the physicians and surgeons in charge, representing their chiefs of staff. The intern is guided in the care of the patient,

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

and the theory of his training becomes transformed into actual practice. Minnesota does not grant a diploma to a graduate in medicine until he has had one year of service in a hospital as intern following a four years' medical course. Further, the medical department of the University of Minnesota will not accept a student who does not hold an academic degree. When we have added to this a four-year medical course and three additional years of graduate work for a master's degree, the training of such an American physician is equal to, or better than, the requirements of any of the countries of Europe.

An efficient, harmonious working corps of physicians is very necessary in the organization of a hospital. It is not for us to discuss the method by which the staff of medical attendants should be chosen. They should certainly be considered for their fitness, and should hold their place on civil service if their efficiency is maintained. It should not be necessary for the hospital to furnish reputation for attendants who are below par and who have secured appointment by political or church pull, or the fact that they were family physicians of some of the directors. There are certain positions in a hospital which, to secure the highest efficiency, should be maintained by fixed salaries—those of the pathologist, bacteriologist, chief anesthetist, and the surgical registrar. With the recognition of the fact that many of the acute and chronic diseases, local and general, arise from a local focus—the most common source being the mouth—the true importance of dentistry is now recognized, and a dentist should be associated with every clinic and hospital, or subject to consultation call.

HOSPITAL REPORTS AND RECORDS.—In the standardization of hospitals, efficient methods of making and keeping records of all sorts will be necessary, especially the records concerning patients, their care, and the results of operation or tr atment. Valuable suggestions made by Dr. Emory Codman a few years ago with regard to the form of hospital reports are now bearing fruit after being installed in many of the eastern hospitals. Dr. Codman propounded a series of questions to be asked in the individual case as follows: "What was the matter? Did they find it out beforehand? Did the patient get entirely well? If not, why not? Was it the fault of the surgeon, the disease, or the patient? What can we do to prevent similar failures in the future?" All results of surgical treatment which lacked perfection he believed could be explained by one or more of the following causes: "Errors due to lack of technical knowledge or skill; errors due to lack of surgical judgment; errors due to lack of care or equipment; and errors due to lack of diagnostic skill." The hospital authorities should keep a duplicate record of the character of operations and their results as well as the results of other treatment. This would make it possible on their own accord to eliminate from the staff men who perform operations of questionable character. Necropsy records are most necessary, but, while they may be secured in a high percentage of cases if desired, too often they are not wanted. Such records would standardize physicians.

With all of the various hospitals, general and special, there is still need for one more—a hospital for diagnosis. In the rapid advance of medicine during the last fifty years we have seen the disappearance of that former friend and counsellor, the family physician. Medicine has become so vast, so monumental, that it is no longer possible for one man to encompass it, at least in practice, although he may have very wide knowledge of the principles and theories. Team-work as exemplified in large clinics and in hospitals has become necessary in the care of the rare and complicated cases representing 10 percent of the total, while even special examinations for the well-known diseases require experts in various lines in order that the diagnosis may be proved and complications not overlooked. In the past such examinations could be secured by the wealthy, who could pay for them, and by the poor, to whom they were free. It is the middle class, the larger number, who are most dependent on the ability of one man or his assistant. The middle class in cities are frequently seen at free dispensaries because of the presence of specialists and more complete equipment. Mt. Sinai Hospital has started a pay clinic, and Dr. Goldwater, its superintendent, has stated in defense of the plan: "Experience has shown that persons of moderate means who are in need of the services of high-grade specialists have the greatest difficulty in obtaining them, for such physicians, either in their private offices or in the field, do not give their services for nominal fees. This problem, it is universally conceded, must be solved, and a great many patients are forced to solve that problem in their own way by going to free dispensaries; in fact, many such patients are referred to the dispensaries by general practitioners, who send cases to the dispensaries for diagnosis. This is especially the case when the making of diagnoses requires the use of special apparatus and equipment and the cooperation of a number of physicians. There is a large number of patients who certainly could not be put in the pauper class who cannot afford to go to the specialists. The question before us is how to solve the problem, and

to this the trustees have been devoting much attention." The situation must be recognized and dealt with. To maintain a high standard and keep the profession filled with educated and cultured men who are equipped with modern apparatus, it must be made better. In order to do this, it is necessary that physicians obtain more than the present average compensation. There are now less than half as many students of medicine as there were five years ago.

In large cities and in the medical departments of universities diagnosis hospitals should be founded solely for the purpose of observing patients, the making of all kinds of special examinations, including laboratory tests, special vaccines, and x-ray examinations. To be highly efficient, it should have also an experimental department. When the diagnosis has been completed, patients could be referred to their home physician with the diagnosis and the plan of treatment. From the librarian of the clinic could be sent references to recent literature on the subject. Some cases could be referred to special hospitals and sanatoriums, and others to surgical institutions. Such a diagnosis hospital would have the greatest educational value, and its main supporters would be the general practitioners, especially those located in smaller communities. Undoubtedly it would do much toward the elimination of that nefarious practice—the division of fees and the barter and sale of sick human beings.

We come now to the board of directors, a body rarely required in Catholic institutions, as in them the management is directed by the sisters. The interest of this board never flags, and the most arduous work becomes a pleasure, even though it be a duty. Most hospitals, of necessity, usually represent the extreme in economic management. There is, however, still much room for improvement in the appointment of efficient hospital directors. The directing fails generally through lack of organization and division of labor. A Taylor system of management would accomplish much without lessening the efficiency. There is certainly great waste in many institutions, and this system would be more commonly forced on hospitals were it not for the well-organized practice of begging. The rich usually give freely, probably with a feeling that the proverbial opening in the needle's eye may become enlarged for their passage.

Last, but by no means least, comes the chaplain. From their nature, hospitals are filled with trouble, but to the great majority of patients comes the blessing of relief and restoration of health. For some there is sorrow, however, and the incurables, the dying, and their relatives and friends, turn for solace to the church. Thus, the valuable services of the chaplain are greatly appreciated by the medical attendants.

PASTEURIZED MILK CAUSES SCURVY

New York Physicians Sound Warning Against Continued Use of Pasteurized Milk Unless Accompanied by Fruit Juices

A good many of us have known for a long time that the pasteurization of milk was not a cure-all, either in the purification of the milk itself or for the protection of infants and the sick, but it has remained for a group of New York men to develop the fact that pasteurized milk causes scurvy in infants. The bulletin of the New York Health Department of April 29 comments on the matter as follows:

INFANTILE SCURVY AND PASTEURIZED MILK

In the discussion of Doctor Funk's interesting paper on "Vitamines, a New Factor in Nutrition," read before the Academy of Medicine last week, Dr. L. Emmett Holt expressed the opinion that infantile scurvy was undoubtedly on the increase in this city, and that the increase was due to the exclusive use of pasteurized milk in the artificial feeding of infants. That this conclusion is probably correct is indicated by the interesting clinical observation reported by Dr. Alfred Hess at the same meeting. Hess found that a mild grade of scurvy developed in a group of infants artificially fed on pasteurized milk and barley water, while a control group to whose diet orange juice was added, but who otherwise received the same milk modifications as the first group, remained entirely free from scurvy. In the first group the scorbutic symptoms promptly disappeared on the administration of orange juice.

The Department of Health is deeply interested in these papers and in the discussion they have provoked. It does not understand them to constitute a disapproval of pasteurization of milk in New York city, but rather to be a warning concerning the temporary disabilities which are produced by the exclusive use of pasteurized milk in infants. To conclude that the enactment of the pasteurization ordinance was ill-advised would indeed be unwarranted. In this connection it must be remembered that most of the cases of infantile scurvy now being encountered are of a mild type; so mild, in fact, that many of them escape recognition even at the hands of experienced physicians. Moreover, the dangers of milk-borne disease are real, and constantly carry with them a grave menace to life through tuberculosis, typhoid fever, septic sore throat, diphtheria, and other infectious diseases.

In contrast to this we have a mild grade of scurvy which can readily be prevented or cured by the addition of a little orange juice to the diet. Furthermore, a safe raw milk (guaranteed or certified) is available for those cases in which pasteurized milk, even with the addition of simple antiscorbutics, does not meet the requirements. Such cases must be extremely rare.

Instructions have been given by the Department of Health to the physicians and nurses in charge of its milk stations and of the baby welfare work in the homes to be on the alert for any of the early signs of scurvy, and to insist on the use of orange juice or other suitable antiscorbutics when babies are exclusively bottle-fed on pasteurized milk.

While the Department of Health has no intention, therefore, of altering its policy with regard to pasteurization, physicians may rest assured that it likewise does not contemplate or look with favor on any administration of milk control in any community which eliminates the privilege of securing a safe high-grade raw milk for those whose lives may depend on its use.

Dr. John C. Knauer, a member of the surgical staff of the Homeopathic Hospital, Reading, Pa., and one of its founders, died in the hospital June 3 as the result of an infection contracted when operating on one of his patients.

ROBINSON MEMORIAL OF THE MASSACHUSETTS HOMEOPATHIC HOSPITAL

Building Designed in Collaboration With the Late Dr. Mann Notable Structure Embodying the Best Thought of Modern Administrators and Designers—Some of the Details of the Maternity Unit

By WARREN C. HILL, of Kendall, Taylor & Co., Architects, Boston

THE dedication of the Jennie B. Robinson Memorial building of the Massachusetts Homeopathic Hospital in Boston on January 1, 1916, is of particular interest not only to that community, but to hospital people throughout the country as well.

The development of the maternity unit in the general hospital is receiving at the hands of hospital boards, their administration, and the public generally far more consideration than was thought necessary ten years ago. There have been and are several worthy maternity hospitals, but, as a unit of the general hospital, it is only within a few years that they have been considered in the light which they are today. The reasons for this are obvious, and they have been dwelt on in these columns so often that repetition of them is unnecessary.

The Massachusetts Homeopathic Hospital, now considered as the second largest in Massachusetts, was established by an act of the Senate and House of Representatives in General Court May 19, 1855. The hospital was first opened in January, 1871, in a building at 14 Burroughs Place, Boston, with a capacity of 16 beds. In 1874 one building was completed at the present site on East Concord street, and the hospital was moved there, increasing the number of beds to 40.

The surgical wing was opened in 1884, and in the following year the training school for nurses was established. Additions were made to the surgical and medical wings in 1891, greatly increasing the capacity of the rapidly growing institution.

In 1897 a maternity department was opened on West Newton street, in the near vicinity of the main hospital, and in the same year the Vose Hall for nurses was erected and occupied, with a capacity for 150 nurses.

In 1906 the hospital took over the Homeopathic Medical Dispensary, which had been in existence for sixty years, and this became the out-patient department, which was maintained in the one-story building, now the site of the new maternity building.

The John C. Haynes building for contagious diseases, in Brighton, was erected in 1908, a group of seven modern fireproof buildings, which also includes the residences of the superintendent and his first assistant.

The Evans Memorial for clinical research and preventive medicine was built in 1910.

During the past year the trustees have acquired the building known as Newton Hall, at present used in part for nurses of the maternity department. They purchased also land upon which it is proposed to erect in a short time the service building, containing the power plant, laundry, kitchen, bakery, dining rooms, main diet kitchen, storage room, etc., and a building for additional accommodation for nurses. This building will be connected to others of the group by means of underground tunnels or subways. They have also taken title to property on Albany street, which is now in process of alteration and which is to be occupied by employees, and the erection of a new ambulance station at the rear of some of these buildings is contemplated.

These improvements, when completed, will permit of alterations and additions to the main hospital by the erection of a new operating building on the site of the present boiler house and laundry. When this is done, the space now used for operating department in the surgical pavilion will be utilized for 40 additional beds. Extensions of the medical wing, when made, will add 40 more beds.

The late Wm. O. Mann, M. D., superintendent of the hospital for many years, although associated with many others, took the greatest interest in the maternity department, and it grew so rapidly that some years ago the department was moved from the building in which it was first established to the medical wing of the main hospital, where it remained until the opening of the new building. The normal capacity up to that time was about 40 beds. The floor formerly used for maternity has, since the opening of the Robinson building, been remodeled and converted into a modern children's department, with three wards and large play room, with beds for 50 children and infants.

The present capacity of the main hospital, including 80 beds at the maternity building and the new children's department, is 350. The contemplated additions to the surgical and medical wings, when completed, will add 100 beds, and at the contagious department, Brighton, there is a capacity of 175, making a total of 625 beds. Nash House, the convalescent home for men in Dorchester, and "Sunny Bank," the convalescent home for women

Fig. 1.

Fig. 2.

Fig. 3.

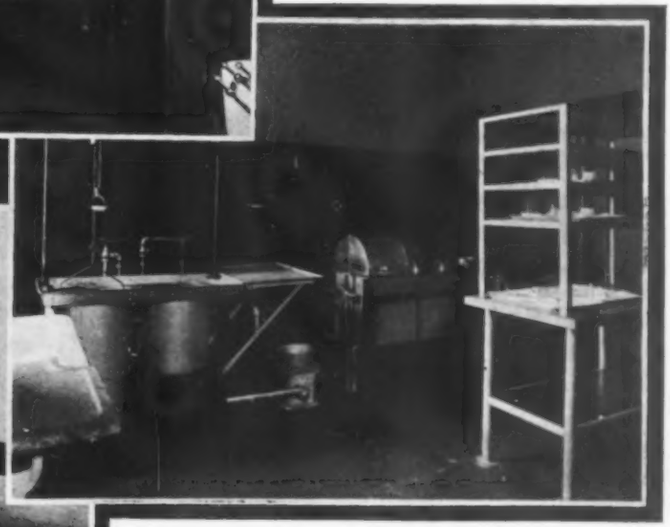


Fig. 4.

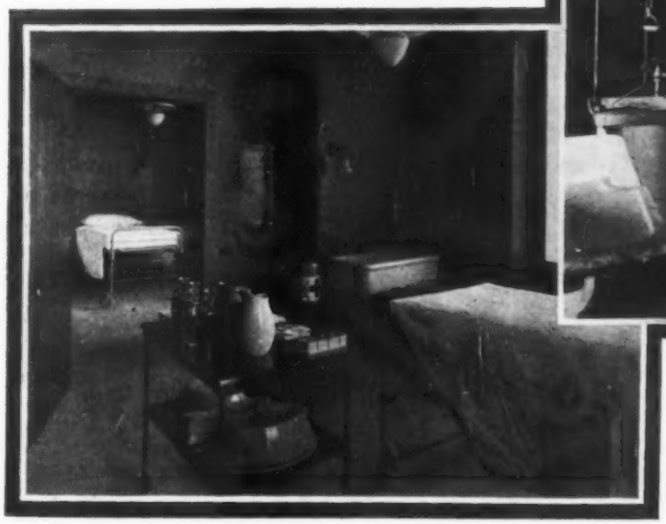


Fig. 5.

Robinson Memorial of the Massachusetts Homeopathic Hospital. Fig. 1—A nursery. Fig. 2—Typical ward. Fig. 3—Nurses' work room, looking toward flower bay. Fig. 4—Serving or diet kitchen. Fig. 5—Delivery room, showing labor room beyond.

in Watertown, have a capacity of 20 each. The hospital is very popular, and usually has few spare beds. The maternity building has operated at capacity since its opening.

For many years Dr. Mann dreamed of a maternity department adequate for the purpose, and he and the architects spent much time in studying the problem, which, because of the location and other conditions, was a peculiarly difficult one. He lived long enough to see his hope started; that he did not live to see its completion is most deeply regretted. The building was started in the latter part of 1914 through the munificence of Wallace F. Robinson, of Boston, who provided funds for the purpose, with the stipulation that the building be named in memory of his wife, Jennie M. Robinson.

The site of the building at the corner of Stoughton street and Harrison avenue was that of the out-patient department of the hospital, a one-story building, with basement and foundations suitable for a five-

story building. It was deemed wisest to build on these old walls rather than to disregard them entirely, and the out-patient department was temporarily housed in a nearby building. The old floors and roof were removed for the erection of the new building. In rebuilding, the ground and first and second floors follow, in a measure, the lines of the old building, and these floors are used for the out-patient department in the new structure. A separate entrance is provided for this department on Harrison avenue to the first floor, with elevator service to the second floor, in addition to the broad staircase leading thereto from a point back of the registry or control station, which is opposite the entrance. Rooms for treatment of women, children, eye, surgical, genitourinary, and neurological cases are provided on this floor. In a one-story wing over what was formerly the boiler room are the medical clinics. The lecture room is used for clinical lectures, etc.

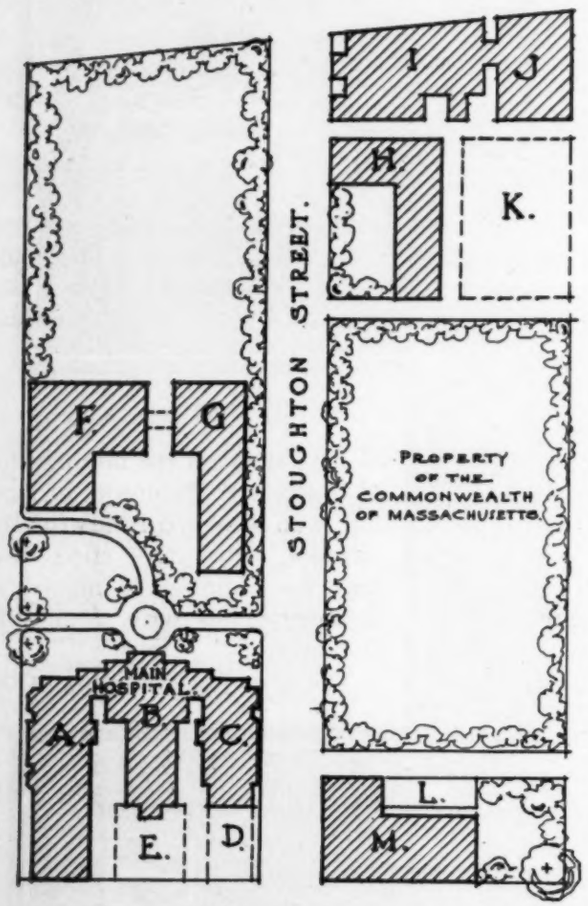


Fig. 6. Robinson Memorial of the Massachusetts Homeopathic Hospital. Ground plan.

A. Surgical pavilion.
B. Administration building.
C. Medical pavilion.
D. Proposed extension to medical pavilion.
E. Proposed new operating building.
F. Evans Memorial for clinical research and preventive medicine.
G. Boston University School of Medicine.
H. Vose Hall for nurses.
I. Jennie M. Robinson Memorial maternity and out-patient department.
J. Newton Hall for nurses. Site of possible future out-patient department.
K. Service building (proposed).
L. Ambulance station.
M. Home for employees.

On the second floor is the orthopedic department, with ear, nose and throat, and social service rooms, and two double rooms for externs, each with private bath. Out-patients from these two floors descend to the ground floor, on which are located toilets for men and women and the pharmacy, thence out to Stoughton street by an exit used for no other purpose, avoiding confusion in traffic during the busy hours of the clinics. Rooms for male employees of this building are provided on this floor, and also work shops, storage, etc. The balance is used in connection with the maternity department for locker rooms for ward patients, laboratory, toilets for visitors, sterilizer, etc.

The entrance to the maternity department is on the Stoughton street side through a lobby (in which there is a memorial tablet erected by the trustees in token of their appreciation of the generosity of the donor) and a memorial waiting room. Access to the prenatal clinic on the second floor and to the floors above is by means of an elevator or by a staircase. There is no direct communication on the first floor between the two services, and on the second floor only as a matter of convenience for employees. The prenatal clinic is on the second floor, with dressing rooms adjoining. Two rooms for interns are also provided on this floor.

The third floor is known as the public ward floor, and has two 10-bed and two 8-bed wards and two isolating rooms for twilight, aseptic, or other cases. Delivery and labor rooms are as far removed from the wards as possible and shut off with double doors. The labor room is equipped like the delivery room in every way, giving ample capacity in an emergency. There are two toilet rooms for patients, in one of which is a special cubicle for exclusive use of nurses. There are two nurseries, with room for bathing, in the south corner, with balcony for airing. The nurse's station controls the entire floor, and is easily accessible to diet kitchen, utility, or linen room.

The fourth floor is known as the semi-private floor, and has four 2-bed and three 8-bed wards, and is identical with the floor below in all other respects. There is an incubator located in the corner nursery on this floor.

The fifth floor, which is the private patient floor, has twelve rooms, eight arranged en suite, with baths, permitting a flexible arrangement for renting with or without bath rooms. The nursery and bathing room are smaller on this floor, and adjoining the diet kitchen is a special kitchen or laboratory for preparation of milk for the entire

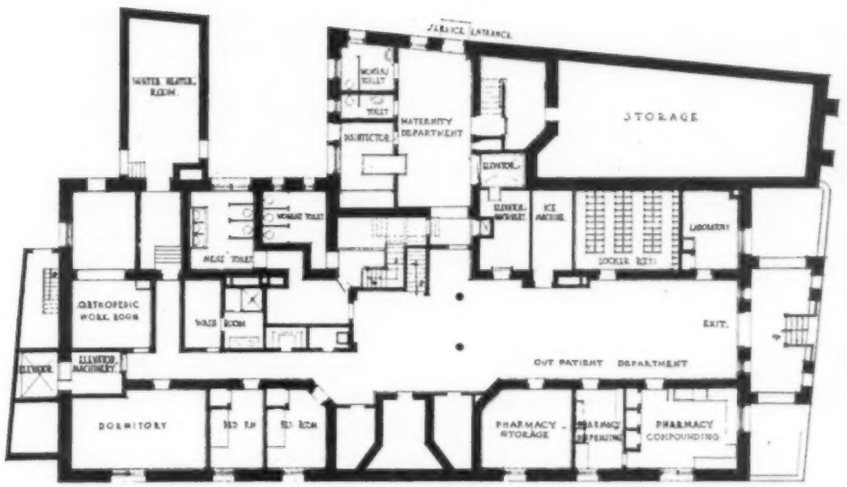


Fig. 7. Robinson Memorial of the Massachusetts Homeopathic Hospital. Ground floor plan.

maternity department. A large sterilizing room is provided on this floor, which contains water stills for the purpose of supplying distilled water to all portions where required. There are special reheating devices in the delivery rooms below. There is also a room for obstetricians, with lockers and shower. The roof is arranged for a garden, protected by awnings, for use of ward patients.

The exterior of the building is of water-struck brick, with limestone trimmings. The solarium is of copper; on the front, at the fifth floor, the wall is set back 8 feet, forming an airing balcony for the private patients. The floor of the balcony and the garden on the main roof are of tile. The building, with the exception of doors and trim, is as fireproof as it can be made, and every room on the ground floor has automatic sprinkling equipment. The interior finish, with the exception of the lobby and waiting room at maternity entrance, is plain, the effort being to secure simplicity, permanence, and utility. The color is a soft gray-green. The lobby and waiting room walls are of white English vein marble, the base and border of verde antique, and the floors of gray Tennessee marble. The walls above the dado are in plaster, painted a warm French gray, with simple decorations.

The floors in the out-patient corridors, the nurses' rooms, and the diet kitchen are of red tile. The walls of the diet kitchen and nurses' rooms are faced with the same material 7 feet high. White marble

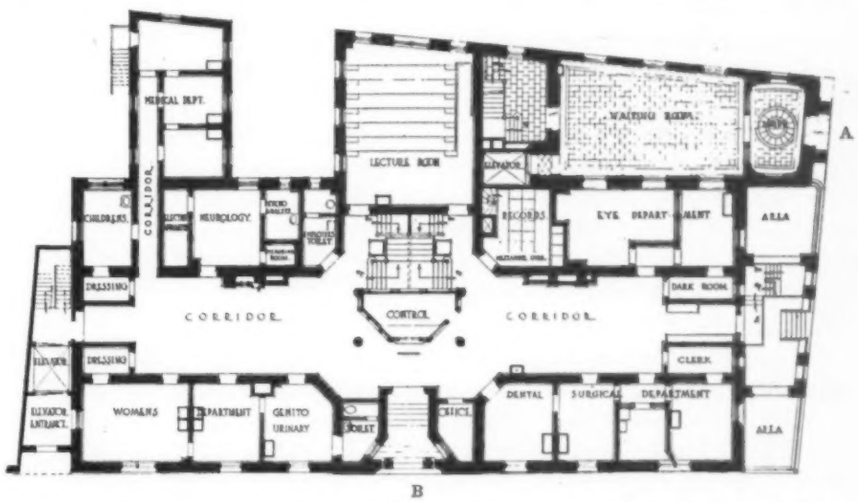


Fig. 8. Robinson Memorial of the Massachusetts Homeopathic Hospital. First floor plan. A, maternity department entrance; B, out-patient entrance.

Mosaic floors are used in the delivery and labor rooms, with gray Tennessee marble wainscoting. Linoleum is used in the third, fourth, and fifth floor corridors, the private rooms on the fifth floor, and in the interns' and externs' rooms, with terrazzo bases 6 inches high on walls and 8 inches wide on the floors. Terrazzo floors are used elsewhere, and in large wards these were divided into panels by the introduction of strips of black marble Mosaic to break up the rather monotonous appearance of the material.

The corridor walls are light-buff, with a darker tone below 4 feet high; the nurses' rooms and

Fig. 9. Robinson Memorial of the Massachusetts Homeopathic Hospital. Second floor plan.

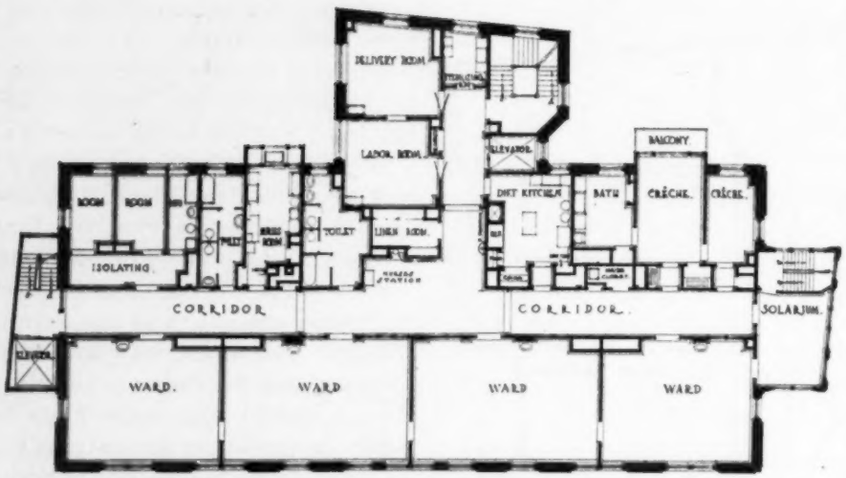


Fig. 10. Robinson Memorial of the Massachusetts Homeopathic Hospital. Third floor plan.

diet kitchen are buff above the tile; the wards and patients' rooms are light-green above a darker green dado; a light-gray was used in the delivery room, nurseries, rooms in the out-patient department, toilets, etc.

Our senses have been deadened to superlatives, but the phrase "equipped with all modern appliances" is the slogan of every new hospital and applies to this one as well. A few further details will complete the description.

The steam for heating is generated at the central plant and transmitted in underground conduit to the building. Refrigeration is by a small separate machine in the basement, cooling drinking water as well as ice boxes. Food is cooked in the kitchen of the main hospital and brought to the building by autotruck in insulated containers. Special cooking for private patients can be done in the fifth floor kitchen. Waste and garbage are consumed by incinerators located in each nurses' room. The nurses and interns' calling system is of the latest obtainable pattern, and all private rooms are provided with telephone jacks.

The lighting fixtures are of special design, the special uses of each group of rooms being considered; semidirect fixtures, with a glass diffusing bowl and clear glass dome, are used in all patients' rooms and wards, and direct fixtures in all rooms other than those occupied by patients. The delivery and labor rooms are lighted by means of four pendant lights, with a lower glass diffusing bowl and glass dust cover, with an adjustable deflecting shade, permitting regulation of light on the sphere of operations.

Fig. 11. Robinson Memorial of the Massachusetts Homeopathic Hospital. Fourth floor plan.

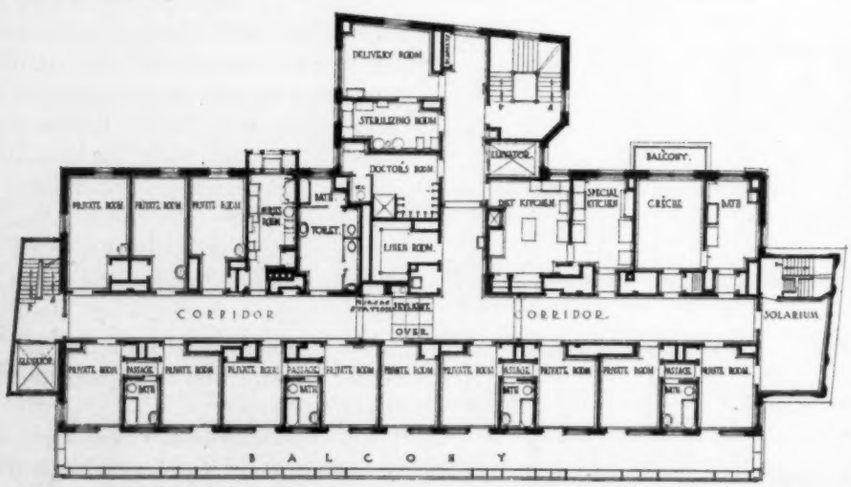


Fig. 12. Robinson Memorial of the Massachusetts Homeopathic Hospital. Fifth floor plan.

The "flower bay" in the nurses' room permits of the watering and care of flowers when required, and the inner and the outer sash can be adjusted to regulate the temperature. Sash between corridors and wards are high enough to prevent looking in, and add cheer to the long and usually dark corridors.

Many other points could be mentioned, but it is sufficient to say that every effort has been made to provide for the comfort and welfare, not only of the patients, but of the physicians, nurses, and orderlies as well.

THE MEDICAL PROFESSION'S OBLIGATION TO THE PATIENT[1]

In the Team-Work of the Hospital Prescribed by Present-Day Methods in Diagnosis and Treatment There Are New Obligations That the Profession Must Consider

By HENRY A. CHRISTIAN, M. D., Boston

AMONG the varieties of opinions held about most medical matters, there is one about which I fancy no dispute has ever arisen among physicians. This is, that the medical man owes it to his patients in and out of the hospital to give to them without stint the best service that he can render. Here lies the obligation of the medical profession to its patients. How to accomplish this is one of our continuous problems, for whose solution many different methods are advised.

When your secretary suggested that I take as my topic, "The Medical Profession's Obligation to the Patient Who Needs Hospital Care," I willingly assented, for, like you, I am interested deeply in how to accomplish the best care of our patients. My views as to the best methods may not be your views, and, yet, to present them must stimulate further consideration, which in the end will lead to progress.

No medical man can give to his patients the best product of medical knowledge unless he is a well-trained man. Our obligation to our patients begins, then, with the obligation to provide amply endowed, well-equipped, and adequately manned schools of medicine in which our future medical men may be trained. The hospital holds a large share in this, for there is a mutual obligation that exists between school, hospital, and patient. The hospital requires the existence of the school to train its interns and staff. The school without the hospital is as the carpenter without a tool. The patient is the cause of the existence of the hospital and school; were he not in need of medical service, the hospital and school would have no occasion to exist; the patient should be willing, then, to use himself for medical education in recognition of this circle of obligations. If these obligations exist, it is equally true that each of the parties to the obligation are benefited in this relationship—the patient most of all. To you, as hospital representatives, I would say, ally yourselves just as soon as you can with the best possible medical school; make no difficult conditions; a full and free offer on your part will benefit hospitals and patients. You have far too much to gain to justify quibbling over conditions of union. If you will run over in your minds the names of the hospitals of the world which are most famous, you will find that they are largely teaching hospitals. In them patients have, on the average, the best service because the student, at his heels, is the greatest stimulus to careful observation and treatment of patients by the visiting physician and surgeon. Students in the wards furnish additional eyes for observation and more hands for work. As I go about the country I see far more inferior medical attention and careless nursing work in hospitals where there are no students than elsewhere. But you say, not every hospital can be attached to a medical school. That is true, but those so unfortunate as to be unable to do so can become teaching centers for house officers, nurses, and the practicing physicians of their community. If, as a hospital, you have not something to give to these, as a hospital you should shut up shop, for you are no longer a good hospital. If your staff does not contain men who can teach this group, then you have failed to get the best available men for your work. I often hear managers of hospitals complain because they secure only mediocre house officers and nurses of inferior quality. It seems to me that when this condition exists it means that you have an inferior visiting staff. Do not complain of your inferior interns and nurses; instead, ask for several resignations from your staff. Fill these vacancies with better men, to attract better house officers and better nurses. Realize that, if young graduates of medicine and prospective nurses do not care to come to you, the cause lies in a weak staff or an indifferently equipped institution.

A well-equipped, adequately manned hospital plant is another phase of our obligation to patients. Without equipment, your staff cannot work effectively; nor can you with ordinary equipment expect to retain the services of a high-grade staff. Obviously, too, patients receive the best professional service in hospitals with good equipment, and inferior service where equipment is inadequate. Too often do hospitals pretend to render a service for which they are not equipped. I do not regard as a hospital, in the proper sense of the word, any institution which is not prepared to carry out a large part of the methods of diagnosis and treatment, medical or surgical, now in use in hospitals, such as are attached to high-grade medical schools. This means comfortable wards and rooms, efficient nurses, a trained

[1]One of the papers on "Team-Work" read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

dietitian, complete operating plant, x-ray plant, laboratories with various apparatus, resident house staff, and competent visiting staff, including specialists. Then, each hospital must be prepared to add equipment for new methods as they develop. Without these the so-called hospital is but a nursing home or place for surgical operations. These latter have their place especially in those communities in which hospitals are not possible, but it is dishonest for them to pose as hospitals and admit patients, expecting study and treatment of the hospital type. I regret to say that our terminology, as in use, does not distinguish between various grades of hospitals. There are many institutions calling themselves nursing homes, sanatoriums, etc., which are doing honestly all they pretend to do, and there are institutions calling themselves hospitals which, recognizing their limitations of equipment, make no pretenses and take only such patients as they can manage. Unfortunately, however, there are many hospitals, so-called, which are pretending to do diagnosis and complicated therapy for which they are not prepared. To these are admitted patients who believe they will receive a real hospital service. This is a fraud on the public, and should not be tolerated. There is need for hospital standardization, and this association should undertake such work. If you do, you, like all other hospital associations, will have to eliminate from your ranks a number of institutions, or classify them as associate members not entitled to membership, because they do not come up to your standards of what a hospital should be. Perhaps such an elimination might be very difficult for an association such as yours, but difficulties should not deter you from such a move. Most assuredly there were great obstacles put in the way of the classification of medical schools, and yet the work has been done with the result of enormous improvement in medical education. The same can and should be accomplished for hospitals.

Were I asked to express an opinion today as to the average greatest weakness of our American hospitals, I would say that it lies in an insufficient equipment for diagnosis and treatment other than surgical treatment. This is particularly true of the smaller hospitals—less true of the large metropolitan institutions. I think it can be fairly stated that American hospitals have better equipped operating plants for their surgeons than have laboratory and therapeutic plants for their physicians. I do not mean to imply by this that the surgeons have more than they need —rather that the physicians have less than they require. The laboratory, hydrotherapeutic, and mechanotherapeutic apparatus, and the diet kitchen prepared to furnish accurately weighed diets, should bear the same cost relation to the medical service as is borne by the surgical operating rooms and surgical instruments. Ward equipment, number of house officers, x-ray plants, nursing force, etc., should be and generally are coordinate for medical and surgical services. If the hospitals of the country spent the same amount of money for the medical as they now spend for the surgical service, there would be a marked increase in the efficiency of hospital work, particularly along the lines of accurate diagnosis, and more skilled therapeutic management of nonoperable conditions. I am inclined to think that the physicians themselves are responsible for existing conditions. They have not been, as a rule, so progressively aggressive as our surgeons. In many instances they have been slow to recognize the importance of utilizing newer laboratory tests and mechanical aids in treatment. Our lack of these therapeutic aids is very general, and probably is a cause for the success of many of the forms of medical quackery in America. To the visitor in a foreign clinic, one of the most striking things in contrast to our American hospitals is the greater expenditure of money for hydrotherapeutic, mechanotherapeutic, and electrotherapeutic apparatus, and for diagnostic laboratories, and the great usefulness of these in their management of their sick. It would seem that one of your obligations to the patients needing hospital care is to improve the equipment put at the service of the physician, as compared with the surgeon, without at the same time decreasing the facilities that the surgeon now enjoys.

Another thing that should be carefully studied by hospital associations is the question of the amount of time that can be demanded of the members of the staff. Modern medical methods are time-consuming. The brief casual ward visit is inadequate to render to the patient in the hospital what he should receive. If more time is demanded of the visiting staff, adequate ways of remunerating the staff members must be worked out. How this is to be done will, of course, vary with the nature of the hospital, relative number of pay and free patients, the size of the community, whether the staff is a limited one or whether the hospital is open to the physicians of the community who may care to send patients to the hospital, etc. The fundamental point is that large amounts of time cannot be with justice demanded of visiting staff unless directly or indirectly they receive remuneration for their services. On the other hand, if some means of securing this time is not worked out, the visiting staff necessarily

will neglect the patients, and the hospital will fail to meet its obligations to its patients. One way of obtaining better professional attention for the hospital patient lies in having a larger resident staff, some of whom remain in service for a considerable period of time, receiving a salary in addition to board and lodging. For the larger hospitals this sort of an arrangement is almost essential if the hospital is to remain an efficient institution. It seems to me certain that salaries for hospital staffs will soon come to be general rather than the exception. The out-patient staff, above all, needs to be paid.

If these conditions are met, then the institution can secure a high-grade staff, and demand of that staff a very considerable amount of work in the institution. The selection of this staff is an all-important matter. With the best of tools, good work cannot be produced unless the workers are competent. Careful selection of the staff is needed. Seniority promotion necessarily introduces stagnation into an institution. Any form of local limitation carries with it an inability to get the best available men. Your sectarian hospitals, more than any others, are handicapped in this matter just in so far as you allow religious beliefs to influence appointments. To the other handicaps, such as seniority promotion, the necessity of taking only local men on the staff, etc., from which all hospitals may and many do suffer, you have added the further limitation of sectarianism in just so far as you limit your staff to members of your own church. Often a man may be the best man available, and at the same time of the religious belief of a sectarian institution. Very often, however, this is not the case, and as you look about the country you see sectarian institutions of various beliefs carrying on their staffs men who must have been selected on account of their professional attainments.

Just this same principle applies also in the selection of head nurses, pupil nurses, teaching nurses, etc. The sisterhoods that conduct, in part, your hospitals are great blessings to you, for they bring to you conscientious workers, unsalaried, and so you obtain many workers at less cost than is the case with competing, nonsectarian hospitals. Necessarily, however, this system introduces the element of inelasticity and the tendency to employ in positions people not thoroughly suited for the posts. Thus often you must put square pegs into round holes, with the result that you have a misfit. This must be recognized as a defect in your system, against which you must be constantly guarding to reduce it to a minimum. I am speaking frankly on this subject from the point of view of an outsider who has worked in institutions manned by members of Catholic sisterhoods. In my association with the work of a sisters' hospital I have come in contact with wonderfully efficient, effective women, and yet it must be acknowledged that in the same way I have seen women doing the wrong work; their unfitness recognized by their superiors, but their superiors confronted with the difficulty of finding a place for these unsuitable people elsewhere, and the difficulty of securing within the order desirable workers in their places. Every superior in a hospital must often be confronted with just this problem. How well they can meet the problem will be a large factor in determining the efficiency of the nursing and administrative side of your hospitals. Whenever this part of the institution deteriorates in efficiency, the patients must suffer proportionately, and the institution fail in this respect to meet one of its obligations to its patients. What I have just said about sectarian institutions, I have put to you in a personal way. I want to make it clear, however, that this is a fault no more of Catholic than of any other sectarian institutions. Methodist, Presbyterian, Episcopal, and Deaconess hospitals are all confronted with this same handicap.

Very many of the hospitals of this country have too expensive buildings. By this I mean that, of their available money, too much has been put into land and buildings and too little reserved as an endowment fund for current expenses. Beautiful buildings are highly desirable from an esthetic viewpoint, provided the institution can afford them. Even for these it might be remembered that costly trimmings are not so beautiful as plain lines delicately adjusted to perfect symmetry. It is not what is on the outside of a hospital building, but what is within—both brains and equipment—which makes for perfected service to our patients. Not the buildings, but the work done, will make or unmake the reputation of the hospital. I know of costly hospital buildings in which I should hate to be compelled to be a patient because of inefficiency within their marbled halls, while in contrast some of our best hospital service is rendered to patients in buildings of relatively small construction cost. I would say to those of you who are building new hospitals or making extensive new additions that you owe an obligation to your future patients to leave of your money an ample amount for current expenses, apparatus, staff, etc., for, if too large a proportion is spent on buildings, every patient within those walls will experience daily the result of your unwisdom because of lack of money to provide what is needed for his diagnosis, treatment, nursing, feeding, etc. Our ten-

dency in the past certainly has been the direction of proportionate overexpenditure on buildings, with consequent lack of money for current expenses and apparatus. It is surprising how great reduction can be made in the estimated cost of a group of buildings, without curtailing in any way their efficiency for caring for patients, if administrators, professional staff, and architects combine their efforts with the view to accomplishing the best provision for patients at a minimal cost.

Every hospital bears an obligation to teaching and investigation. I have already spoken of the value to the hospital of association with a medical school, or, failing in this, the importance of becoming a community teaching center. Members of a hospital staff should take an enthusiastic part in teaching interns and nurses, for, if this is not done, the patients will receive inferior service. Then, too, there is much value to the community in the education that patients in the hospital should receive. Where can better lessons be given as to personal hygiene than in a clean, well-managed hospital ward? This phase of our hospital work we often undervalue or even neglect. In it the social service worker is an almost indispensable aid, but nurses, interns, visiting staff, consciously and unconsciously, in their daily routine are carrying out an educational procedure for the patients effective in ratio to the efficiency of their work.

Every hospital, too, must be a place for medical investigation. Careful observation of hospital patients under conditions of disease and their reaction to forms of treatment is possible to every hospital, even the smallest. The accumulation of such observations, when well made, is of value as adding to our stock of human knowledge. By such work methods of treatment, etc., can be evaluated and improved. Often very important contributions to medical knowledge have come from small hospitals, and even from private practice. The spirit of inquiry in medical men is a powerful stimulus to progress, and, without it, stagnation is almost inevitable. Hospital medical investigation means, above all, careful observation. Careful observation, whatever its avowed purpose, will bring out new facts in every patient so studied. The results of observation determine diagnosis; the more complete and the more accurate the observation, the more nearly correct will become the diagnosis. Treatment, in a large measure, succeeds in ratio to the accuracy of the diagnosis. The patient seeks the hospital for diagnosis and treatment, and so medical investigation within the hospital walls, besides stimulating progress in the staff, is of direct benefit to the individual patients. So you, as hospital officers, should take steps to encourage and make possible medical investigation in your institutions.

Catholic hospitals have had a long and honored past. They have contributed much to medical science and medical progress. Your sisterhoods have brought untold alleviation to sick and suffering humanity. For this work I salute you. Your past achievements bring to you a heavy obligation for continued growth and improvement. This association can accomplish much in furtherance of this development if, with honest criticism of yourselves, you face the future with the determination to mold your hospitals to the requirements of the present and the progressive development of medical science and practice. May you ever keep in the forefront of the great struggle against sickness and disease.

The Surgeon's Responsibility

The surgeon who hesitates to direct the necessary treatment is like the general who abandons his place on the eve of a battle, or like the fire chief who retires from the ground when he finds there is a real conflagration. The surgeon has no right to allow this responsibility to rest on the shoulders of any other person, it matter not how broad these shoulders may be. He must never act purely on any other person's say-so, however eminent, positive, or persuasive that person may be. The surgeon's own shoulders should bear the burden, and he must see to it that they do.

It is the mandate of our calling that it shall be so. This mighty responsibility is a splendid dignity. If a surgeon's shoulders are not sufficiently broad, strong, and able to carry great personal responsibility, such a man belongs to some other calling. The trials and triumphs of surgery should not be for him.—J. Chalmers da Costa in the Pennsylvania *Medical Journal.*

Silence Zones for Boston Hospitals

Silence zones covering hospitals of fifty or more beds went into effect in Boston on June 1. The City Council of Boston, following a long delay, has passed the following ordinance:

The commissioner of public works shall, at the request of the authorities of a hospital, place and maintain a sign or signs displaying the words, "Warning! Hospital! Make No Noise!" at such points as he may determine on public streets and places in the vicinity of hospitals accommodating more than 50 patients. No foot traveler, driver or vehicle, motorman of a street car, or operator of a motor vehicle shall make any unnecessary noise in the vicinity of such hospitals as to unreasonably disturb patients therein.

All hospital buildings in this climate should be erected so that as great a surface as possible should receive direct sunlight, a rule which has been observed in several of our best hospitals, but, I am sorry to say, passed over in some of those most recently constructed. Window blinds can always moderate the light of a light ward, but the gloom of a dark ward is irremediable.—Florence Nightingale.

SAFEGUARDING THE HOSPITAL'S MOST VALUABLE FOOD—MILK

Pasteurized Milk Is Safest and Also Cheapest—Certified Milk Has Limited Guarantee—Proposals For Bettering Milk Supplies in Hospital and Home

By CHARLES E. NORTH, M. D.

AUTHORITIES claim some 8,000 hospitals for the United States, but out of that vast number how many are giving the proper attention to their milk supply? The majority of institutions are prone to accept the word of the producer, and a personal investigation or the simple routine laboratory tests are not regarded as essential. A few hospitals maintain pasteurizing plants, but how many of these plants are efficient? In many instances the operators are devoid of even the essential elementary principles of pasteurization.

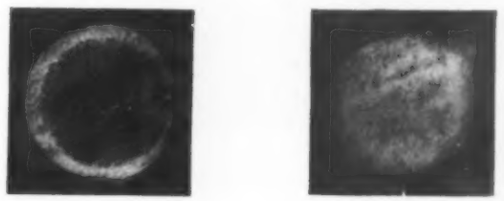
"Clean milk" should be the hospital slogan. Decency distinguishes humans from animals; decency adds pleasure and appetite to the food, and cleanliness contributes most to decency. Milk may be safe because it has been boiled, but may be indecent because it is filthy.

A little calf can run into any cow stable and take its dinner from a cow and run out again with certified milk in its little stomach. Nature has protected the calf against dirty barns and other sources of milk contamination by a method of milk delivery that prevents such contaminations from occurring. The dairy farmer can imitate the calf by using a milking pail with a small mouth, which prevents dust and dirt in the barn from dropping into the milk during milking time.

Fig. 1. Covered milking pail with small mouth. The opening is 5 inches. The position of opening is correct for milking, and greatly reduces the chance of vertical droppings of dust into the pail. The use of this pail instead of the ordinary one will reduce the bacteria content 90 percent in most barns.

A clean dairyman can produce clean milk anywhere. A small-mouthed pail to keep out dirt, plenty of boiling water to keep pails and cans sterile, a tank of ice water to keep milk cold—these three things alone will produce wonderfully clean milk on any farm. Where there is no ice, milk can be delivered twice daily to a station where ice is available.

One grain of stable dirt has been found to contain 32,875,000 bacteria. Bacteria are tiny plants. Dirty milk contains millions of them, and clean milk contains only a few hundreds or a few thousands. The millions of bacteria in dirty milk inflame the intestines of children. Clean milk should not be dumped into the same tank with dirty milk. The clean dairy farmer should receive more money for his product than the dirty dairy farmer. Milk dealers in several cities have already established clean milk stations in the country, where payment to the producer is based on the cleanliness of the milk. In addition to the regular market price of the stations, premiums are paid, not only for butter fat, but for milk containing a small number of bacteria. Clean milk is winning its fight and dirty milk is losing ground every day. Clean hospitals buy clean milk.



A B

Fig. 2. Dirt from milk. Dirt strained out of two kinds of milk by the use of small cotton discs, showing a very dirty milk (A) and a very clean milk (B). The dirt is mostly manure, and contains many millions of bacteria. Such manure often carries the germs of bovine tuberculosis.

CLARIFICATION

DEFINITION.—Clarification means centrifugally cleansing milk of the udder waste and any foreign and impure matter it may contain, without affecting its butter fat or other normal constituents. At the present time most market milk is dirty, being contaminated with foreign matters consisting of particles of dust, dirt, hay, cow feed, cow bedding, cow manure, hairs, dandruff, insects, etc. Some of these float on the surface and others settle to the bottom as sediment.

The dairy cow herself contributes a peculiar form of contamination. The udder is constructed like a sponge. There is a constant shedding of waste tissue from the lining of the udder, and this udder waste often includes the products of udder inflammation. Such inflammations are so common that they are present in some form in practically every dairy herd. Even when there is no external evidence, there is often internal inflammation, discharging its products with the milk.

Udder waste and blood, pus, and bacteria from udder inflammations are fortunately heavier than milk, and most of the foreign dirt is also heavier

than milk. Consequently, when milk is passed through a clarifier, all these things are thrown out by the proper application of centrifugal force, so that they remain in the machine as a slimy mass, which is called "clarifier slime." The amount of such slime removed from milk is about

Fig. 3. Sediment and slime from milk. The two bottles on the left show sediment and slime removed by the clarifier from milk of cows with normal udders. The two bottles on the right show sediment and slime removed by the clarifier from milk of two cows with sore udders, which caused a septic sore throat outbreak, including 669 cases, with 14 deaths.

one pound to every 6,000 quarts (which would equal for New York city's milk supply 333 pounds daily, or over one ton per week). An inspection of the dark and bloodstreaked slimy mass instantly convinces the observer that market milk is rendered much more sanitary by its removal. Clarification adds to the safety of raw milk because, along with blood, pus, and waste tissue, it removes a large number of the bacteria which cause udder inflammation. Such bacteria may inflame the throats of adults or the intestines of infants. Clarification adds to the decency of all milk, raw or pasteurized, because it cleanses milk of all gross impurities.

PASTEURIZATION

DEFINITION—Pasteurization consists in heating milk to such a temperature for such a length of time as will destroy the most bacteria with the least damage to the milk itself.

TEMPERATURE

The substances composing milk are damaged at temperatures higher than those temperatures at which disease bacteria found in milk are killed. The space between, called the "neutral zone," permits selections of a number of good temperatures and periods for pasteurizing milk without affecting its food value, but with a guarantee that the bacteria of disease will be destroyed. In practice, 145° F. for thirty minutes has been agreed on as best by most authorities.

WHY MILK SHOULD BE PASTEURIZED

1. *Raw milk causes infant deaths.* Twenty-five percent of all deaths are of children under 5 years of age. More children die from intestinal disease than from other causes. Children's food is chiefly milk. Dirt bacteria, harmless to adults, irritate and inflame the intestines of children. Pasteurization kills 99 percent of the bacteria in milk.

2. *Raw milk causes septic sore throat.* Septic sore throat is a violent form of tonsilitis. It is often followed by acute articular rheumatism, erysipelas, peritonitis, endocarditis, and other serious inflammations. Cases from one raw milk supply as follows:

Boston, Mass.	1,043
Boston, Mass.	227
Chicago, Ill.	10,000
Baltimore, Md.	602
Cortland-Homer, N. Y.	669

The disease attacks adults chiefly, and there are often deaths. Bacteria in sore udders of cows closely resemble bacteria found in these sore throats. Pasteurization kills the bacteria producing septic sore throat.

3. *Raw milk causes typhoid fever.* Trask has collected records of 317 outbreaks of typhoid traced to raw milk. Here are a few cases from one raw milk supply:

Glasgow, Scotland	500
Cologne, Germany	270
Port Jervis, N. Y.	59
Springfield, Mass.	182
Oakland, Cal.	262
Montclair, N. J.	107
Stamford, Conn.	307

Pasteurization entirely destroys the germs of typhoid.

4. *Raw milk causes tuberculosis.* One hundred and ninety-one tuberculosis cows were taken out of the most celebrated certified dairy herd of 632 animals in November, 1914. In December 72 tuberculosis cows were found in a herd of 86 in a model dairy where every expense had been incurred and precaution had been taken. Tuberculosis is very common, and the majority of dairy herds contain tuberculous cows. Authorities estimate that 75 to 90 percent of human beings have tuberculosis at some time during their lives. Most of this is human, but some of it is bovine. Tabulation by Park & Krumweide of 1,038 cases of tuberculosis showed the following:

	Cases	Bovine	Percent
Adults over 16 years	686	9	1.3
Children 5 to 16 years	132	33	25
Children under 5 years	220	59	27
Total	1,038	101	10

Pasteurization kills the bacteria causing tuberculosis.

5. *Raw milk causes scarlet fever and diphtheria.* One hundred and twenty-five epidemics of scarlet fever due to milk have been collected by Trask.

The old objections to pasteurization are as follows:

Substitute for cleanliness. This is only true if the public and the health officers allow it. Such

abuse of pasteurization can be entirely controlled by testing the raw milk before it is pasteurized. All milk should first be decently clean. Grades and standards and regulations enforced by the health officer can do this.

Affects digestibility and food value. Experimental evidence is difficult to obtain. Fortunately New York city has for the past three years carried out a gigantic experiment in infant feeding at its fifty-one municipal milk depots, where babies are fed the year round to the number of 18,000 daily in summer and 16,000 daily in winter. For three years all of this milk has been pasteurized. Records have shown that the babies have gained weight, have kept well, have shown no signs of rickets or scurvy, and in every way give evidence that pasteurized milk is not inferior in food value or digestibility to raw milk. The death rate among infants during this period has been reduced from 125 per thousand births to 94 per thousand births, which places New York city in the lead of any large city in the world in the reduction of infant mortality.

PASTEURIZATION BY THE LARGE HOSPITAL

Pasteurization is performed on a large scale by some of the larger hospitals through the use of several types of machinery, which not only quickly heat the milk to the proper temperature,

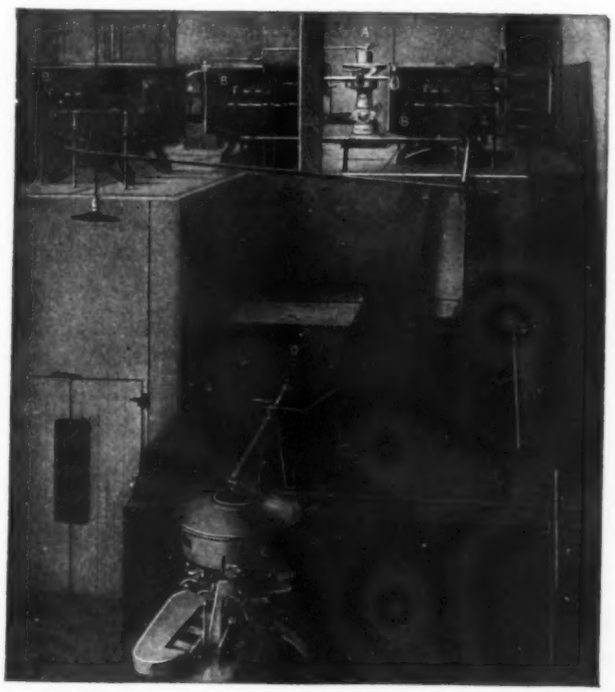


Fig. 4. A complete milk plant. (A) milk clarifier, (B) pasteurizing and holding tanks, (C) milk cooler, (D) storage tank for cold milk, (E) bottle filling and capping machine.

but which hold it in a heated condition for half an hour before it is run over coolers, which quickly reduce the temperature to 40° Fahrenheit or lower. Attempts are now being made to pasteurize milk in the bottle, and several kinds of machinery have been invented for this purpose, some of which have already been put into successful operation. Pasteurization in the bottle is the ideal method.

Considerable research work has been carried on by hospital superintendents, one of whom, Dr. John A. Hornsby, ex-superintendent of the Michael Reese Hospital, Chicago, Ill., has designed and constructed an efficient and practical pasteurizer, using the Ehrlenmeyer flasks in preference to bottles. This apparatus is described in detail in Dr. Hornsby's book, "The Modern Hospital."

PASTEURIZATION BY THE SMALL HOSPITAL

Where pasteurized milk cannot be purchased, or where for other reasons it is desirable to pasteurize milk in the small hospital, the process can

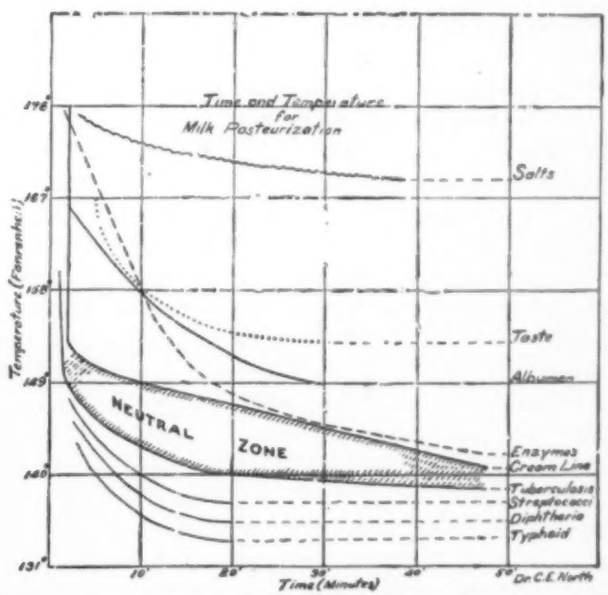


Fig. 5. The effect of heat on milk. The chart shows the effect of heat on milk and on bacteria. The substances in milk are damaged at temperatures much higher than the temperature necessary to kill the bacteria of disease. Between the two is a neutral zone, in which are many temperatures to which milk can be heated without damage, but with a guarantee that the bacteria are destroyed, 145° F. for thirty minutes being recommended by the highest authorities.

be easily performed without special apparatus by gradually heating milk to 145 degrees and holding it there for one-half hour, after which it must be covered and kept cold. It is necessary to use a thermometer to be sure the milk is properly heated. Glass bottles of milk can be placed in cold water in a kettle and the water gradually heated to the right temperature. The thermometer should, of course, be placed in the milk bottle, but the temperature of the water should be tested until the milk reaches the right temperature. A double boiler, sometimes called a rice boiler, is another means by which milk can be easily pasteurized at home.

There are also several very good types of home pasteurizers on the market, which are comparatively cheap and easy to operate. The pasteurization of milk in the small hospital gives a guarantee that no disease can enter the wards through the milk supply.

Fig. 6. A home pasteurizer. This simple apparatus is recommended for use in the home where it is not possible to procure pasteurized milk from dealer.

CERTIFIED MILK

Certified milk is ideal in the matter of cleanliness and decency, and leads all other milks in these respects. In most cases it is produced under precautions identical with those carried out in surgical operations. In the matter of cleanliness, certified milk has taught the milk industry a great lesson, and has been chiefly valuable because of its influence in improving sanitary conditions in the entire industry. In the matter of safety, certified milk cannot furnish a guarantee. Not only has bovine tuberculosis been constantly found present in the dairy cows of certified herds to some extent, but occasionally it has been found to a very large extent. It has been even more difficult to keep dairy cows free from udder disease, and sore udders are dangerous to the milk consumer as the cause of septic sore throat. Scarlet fever, diphtheria, and typhoid fever have broken out among dairy employees, and have been traced to certified milk or dairies operated under similar clean conditions. The result is that public confidence in any raw milk, no matter how clean, has been shaken, and the leading milk authorities now believe that even the best raw milk is unsafe and should be pasteurized.

In the matter of cost, certified milk is too expensive. The cost of operation of certified dairy farms is excessive compared with the small number of quarts of milk produced. Every quart carries a tax of from 5 to 10 cents above the normal price. It has been repeatedly demonstrated that at the same expense for sanitary supervision, and under more businesslike conditions, thousands of quarts of milk can be produced clean and decent enough to conform to all demands at only an increase of 1 cent per quart in price. Much milk is now on the market at 10 and 11 cents per quart which is practically as clean and decent as certified milk.

MILK FOR THE HOSPITAL

In selecting milk for hospital use from the variety of milks on the market, there are three matters of chief importance to be considered. These are safety, decency, and price. In the table below are mentioned several kinds of milk sold in New York city and ordinary raw milk. The character of each is set down in the three respects mentioned, using the number of bacteria as indication of decency.

TABLE 1. KINDS OF MILK FOR SALE

Milk	Safety	Decency (bacteria in raw product)	Price, cents
	Medical—		
Certified	Veterinary inspection	10,000	15-25
	Sanitary—		
Grade A	Pasteurized in bottles	200,000	10
Grade A	Pasteurized in bulk and bottled	200,000	10
Grade B	Pasteurized in bottles	1,000,000	9
Grade B	Pasteurized in bulk and bottled	1,000,000	9
Grade C	Pasteurized in bulk and canned	over 1,000,000	7
Ordinary raw milk	Occasional inspection	No standard	8

Safety comes first, and is more important than decency or price. If perfect milk scores 100 points, it would be fair to allow 50 for safety and 25 each for decency and price. There are different degrees of safety and decency. The different prices also affect usefulness of milk, for low prices mean wide use, while high prices restrict usefulness. These degrees of safety, decency, and price can be tabulated as follows:

TABLE 2. Points for safety. Perfect, 50.

Pasteurized in bottles	50
Pasteurized in bulk and bottled	45
Medical—	
Veterinary inspection	30
Sanitary.	
Scoring farms	25
No inspection	0

TABLE 3. Points for decency. Perfect, 25. Bacteria in raw material.

10,000—25	
100,000—20	
200,000—19	
500,000—10	
1,000,000— 5	
Over 1,000,000— 0	

TABLE 4. Points for price. Perfect, 25.

9 cents or less	25
10 cents	20
11 cents	15
12 cents	10
15 cents	5
20 cents	0

Clarification would add 5 points to decency of all milk, and in the case of raw milk would also add 5 points to safety.

If now we put down opposite the milks in table 1 the number of points allowed for safety, decency, and price in tables 2, 3, and 4, we get the following:

TABLE 5. VALUE OF DIFFERENT MILKS.

Milk.	Safety score.	Decency score.	Price score.	Total score.
Grade A.				
Pasteurized in bottles	50	19	20	89
Pasteurized in bulk and bottled	45	19	20	84
Grade B.				
Pasteurized in bottles	50	5	25	80
Pasteurized in bulk and bottled	45	5	25	75
Grade C.				
Pasteurized in bulk and canned	45	0	25	70
Certified (raw)	30	25	5	60
Ordinary raw milk	0	0	25	25

From the table it appears that grade A pasteurized milk scores 89 points, and has the highest public value of all milks. This is because its

safety is guaranteed by pasteurization, it is decently clean, and can be sold at a moderate price. In short, for 10 cents per quart it is possible to get a milk that is decently clean and thoroughly safe. Ten cents makes it possible to pay the dairy farmer a premium for cleanliness, and it also pays the dealer for extra care in handling and in pasteurization. The cost of cleanliness and safety is only 1 cent added to the regular market price.

MUNICIPAL MILK CONTROL

No city today feels itself safe unless it possesses a pure water supply. Water is a public question. Where water is impure, public opinion demands that the municipal authorities take steps to remedy the evil. In like manner the milk supply is a public question, and should be controlled by public authorities. The danger to the health of citizens from milk is greater in many respects than the danger from water. In taking control of the milk supply of a city or town, ideal conditions cannot be established at once, but complete control must be approached step by step as follows:

1. *Milk laboratory.* The first step is installation at an expense of only a few hundred dollars ($300 to $500) for apparatus of milk laboratory to test milk for bacteria. Such tests can be made by a young man or woman at moderate salary. They give the best kind of information as to condition of milk and show which is clean and which is dirty.

2. *Pasteurization.* When water is impure, the public demand that it be filtered and sterilized. Over 600 cities in the United States and Canada, including New York city, Philadelphia, Jersey City, Toronto, Buffalo, etc., are now sterilizing water with chlorin. Pasteurization can be quickly applied to all milk either by the milk dealer or by the city itself, and it at once protects all milk consumers against disease. For the sake of safety, it should be required and regulated by municipal ordinances.

3. *Bottling.* Retail milk should be bottled under sanitary conditions, and dipping of milk from retail wagons prohibited.

4. *Grades and standards.* The final step is the establishment of definite grades and standards for milk. These relate especially to the sanitary character of milk before pasteurization. Their object is to identify clean and dirty milk, and label them so that the buyer may exercise choice. Milk grades are recommended by the Commission on Milk Standards, consisting of twenty of the leading health officers and sanitarians of the United States and Canada. Their report grades milk into three grades—A, B, and C—with bacterial standards for each. It has been indorsed by the leading national associations of health officers, physicians, veterinarians, and milk dealers, and it is published by the United States Health Service. The grading of milk gives official recognition to the clean milk producer, establishes a market for clean milk, and gives a market value for cleanliness. New York city has been the first to grade its entire milk supply in this way, and all bottled milk is labeled A or B. This system has already proved to the municipal authorities its superior value over all other means for controlling the milk supply.

Fig. 7. The different grades of milk. 1, certified; 2*, grade A, pasteurized; 3, grade B, pasteurized; 4, ordinary raw milk (dipped).

Hospital administrators should carefully investigate the source of the hospital supply both by personal visits to the dairy farms and by laboratory tests. The microscopical and chemical examination of milk can be conducted and accurate results be obtained by any good laboratory technician. The routine methods of analysis in vogue are simple in procedure, but require considerable care and accuracy to produce dependable results.

LESSONS IN THE HOSPITAL

Injured Immigrants Are Taught English in Industrial Institution During Convalescence

Daily instruction in English is given by the Cleveland-Cliffs Iron Company at Gwinn, Mich., to foreign-born workmen who, because of injuries sustained, are confined for some time in the company's hospital. The necessary texts and material are brought into the wards, and instruction is given for forty-five minutes or more each day. The teacher then assigns sufficient individual work to keep the patients fairly well occupied for the balance of the day. Doctors and nurses, who are delighted to have the men occupied in this way, encourage their patients and splendid progress is made. It is claimed that this work keeps the convalescents contented and happy in their enforced idleness.

Although in badly constructed hospitals, or in countries where fuel is dear and the winter very cold, artificial ventilation may be necessary, it never can compensate for the want of the open window.—Florence Nightingale.

THE SMALL COMMUNITY HOSPITAL—ITS FINANCES[1]

The Building Fund and How Raised—The Fund For Permanent Support—Essentials For Financial Success—The Whirlwind Campaign—The Value of Accurate Accounting and the Publication of Straightforward Figures

By JOHN ALLAN HORNSBY, M. D.

IN step with the business methods of our time, hospital administrators and trustees are thinking in terms of system and mathematical accuracy, and they are even attempting to apply the principles of business to their institution operations. While such a motive and such an attempt can be carried too far, and can be hurtful if persisted in beyond a reasonable point, yet it is highly necessary that accuracy and order shall prevail in hospital administration.

Of course, the place to begin is at the very outset of any enterprise, and this is true when a small community hospital is to be thought about, just as it would be true in a great manufacturing organization, and it is quite certain that if we begin right and plan right, and make our financial arrangements properly, and provide against untoward emergencies, we are quite unlikely to get into financial straits and land on financial rocks with an enterprise that primarily and of its own merit ought to have been successful.

There are two hospital funds, and these two should be kept entirely separate and distinct; one is the construction or building fund, and the other is the fund for permanent support. Last month we pictured the initial proceedings for the creation of a community hospital, the meeting of a group of interested people, their division into committees, the duties of these committees, the creation of the organization, and we led up to the collection of funds, and the question was mooted last month as to the most desirable source or sources of these funds.

In a large community, groups of people having certain interests in common may be appealed to for the creation of hospital funds, but in a small town or in a rural community the whole population must be interested, because otherwise the number of supporters of the institution would be too small; besides that, everybody in a small community needs the service of the one hospital intended to be built, and their influence and support, ever so small, ought to be valuable. That support sometimes might be so small as to be insignificant in the affairs of the institution, but the need of the person making such contribution might be extremely great at almost any time, and there might be embarrassment if he was not in accord with and a participant in the support of the hospital. Therefore, everybody in a small community ought to be interested in the community hospital, and the only way to secure such interest is by personal approach, and, of all methods of approach for the collection of funds, the personal and direct method, made by members of the community itself, is far preferable. There is no way better than to secure the voluntary services of a large number of men and women in the community as members of a subcommittee on finance. In large cities such a committee would be made up of individuals representing the different lines of business, and to a certain extent this same plan can be followed even in a small town, as, for instance, two or three members of the committee could represent the farmers in the vicinity; two or three other members could represent the merchants in the town; other members could represent the professional people, such as doctors, lawyers, engineers, architects, if these professions are represented; and still other members could represent the wage-earning members of the community who work in the town. Sometimes such a finance committee would better be divided up according to districts, and in that case the members would be selected from the different neighborhoods of the town.

The best plan of all is for the general committee on finance, or the self-appointed group who are taking the initial steps toward the creation of the hospital, to sit down with a list or a census of the population before them. There should be on such a committee all the bankers in the town and some of the merchants, because these men will know the financial standing or rating of the people of the community. The work of this committee should consist of arbitrarily setting down against the name of each head of a family in the community a figure representing the amount of money the committee feel that the person ought to or might be able to contribute. After this list is completed, those whose names are on it should be classified, as, for instance, one list would contain the names of those who might contribute $5,000 or over; another class would consist of those who might contribute between $1,000 and $5,000; another class those who might contribute between

[1] This is the second of a series of six papers on "The Small Community Hospital—Its Creation, Maintenance, Organization, and Administration." Next month, "Planning the Small Community Hospital."

$500 and $1,000, and so on down until the $5 and $10 contributions were covered in a class of their own. Then the subscription list should be made out to conform with these classifications; in other words, it would be poor policy to allow an individual to present a subscription list to a person who should and would sign for $50 and then present that same list to someone who ought to give $1,000. Therefore, it sometimes is a good plan to divide up the finance committee or the collection committee according to the amounts that the members will solicit. For instance, a banker and a doctor and a merchant will take out a list and undertake to see only those who are expected to contribute the largest amounts; another committee would take the next largest, and so on down.

It is a good thing not to mix the two funds, and attempt to collect both or to secure guarantees for both at the same time. The fund for building the hospital is the first fund to be arranged for, and it ought to be cleaned up, so far as the subscription lists are concerned, before the supporting funds are brought up for discussion. Otherwise a donor who was subscribing $1,000 for the building fund, for instance, would feel himself unable to give that $1,000 at the outset and then agree to give $100 a year for ten years; but, after he has already subscribed his $1,000 and the campaign grows warm for the permanent support of the hospital, it will not be so difficult to get him to make a separate contribution for its permanent support.

There is one more thing about this building fund. There should be no attempt to provide for the immediate collection of the whole fund, but some such arrangement as this might seem advisable; that those who contribute $50 or less would be expected to make immediate payment, those who contribute still larger amounts might be given a little longer time and a greater number of payments in which to clean up their indebtedness, but all the contributions should be reducible to negotiable notes, and they should be of such character that the local bank would be willing to discount them at a reasonable rate, so that the hospital could immediately secure its cash fund for building and equipment purposes. If the subscription list is not legally negotiable, then it is not of the right character to permit the hospital board to rely on it. In other words, it would be practically worthless, and the board would have no right to assume the collection of moneys in which the financial people of the town had no confidence.

Up to this time we have been thinking of the work incident to the collection of the funds for the hospital being done by volunteer members of the community, with our mind rather bent on the idea that the women of the community would collect the larger number of subscriptions.

THE WHIRLWIND CAMPAIGN

Of late years another factor has come into hospital activities—viz., the whirlwind campaigner for the raising of hospital funds—and there is a great deal to be said about the whirlwind campaign and about those who are engaged in that business. There is no doubt that one who has been trained by experience in the creation and conduct of a campaign to secure money can do it better, and will get more money promised, than the members of the community itself who have not had such experience; but there is an open question whether the large percentage that these whirlwind money raisers charge for their work will be an offset to the additional money that they would be able to raise; and yet these campaigners are obliged to charge large percentages for their services; they are obliged to pay a good many expenses, and they indulge in extravagances that the members of the community would not think of, such as the hiring of great numbers of automobiles, the giving of many lunches to many people, and all sorts of campaign dodges to create enthusiasm. Those who are thinking about obtaining their funds by the employment of a whirlwind campaigner ought to be definitely assured as to just what the hospital board is going to be expected to pay. Usually the employed agent charges a percentage for his own work, and out of that he pays no expense, except his own personal bills, and all campaign expenses become an additional tax against the fund proposed to be raised; in other words, if the hospital were going to raise $100,000 and the paid campaigner charged 15 percent, he would get $15,000 net, excepting that he would pay his own hotel bill and transportation to and from the town; and if there were lunches to be paid for every day at noon for ten days, and large automobile or carriage bills, and expenses for banners, clerk hire, meeting places, etc., these expenses would have to be paid for by the hospital board in addition to the 15 percent, some campaigners do not charge as much as 15 percent, others charge more, but the amount, whatever it is, added to the necessary expenses of such a campaign means a great deal taken off the fund, which, after all, is contributed by the people of the community.

There is no doubt that some of these whirlwind campaigners are honest, conscientious, painstaking, and effective agents, and that they have proved satisfactory in many communities, but the reverse is also quite true; therefore, those who

are thinking about the collection of funds in that way had better be extremely careful whom they employ and the terms of employment.

One of the most unsatisfactory effects of the whirlwind campaign is the bad taste that it sometimes leaves in the mouth of the community after the campaign is over. Generally speaking, the campaign agent will want to start out with a good number of large contributions ostensibly because of the influence of these contributions at the outset of the campaign. Sometimes the agent wants to be paid his percentage for these contributions, none of which he has had any part in collecting or arranging for, and which have been provided for his use by the hospital board or some of its members. Unless there is a definite and previously arranged agreement about the agent's pay for these early contributions before his campaign opens, they give rise to trouble. Another source of trouble is the character of the campaign sometimes conducted. After the enthusiasm has been worked up to a white-heat, and the volunteer captains and their various crews are out in the field with their subscription lists, many questions will be asked by those who are approached for contributions. One of these questions, and perhaps the most important, concerns the character of the hospital—whether it is to be dominated by a religious sect or fraternal order, or members of some particular nationality transplanted in the community from abroad—and it is so easy to answer such a question according to the wishes of the questioner. If he should happen to be a Protestant, the inclination behind a whirlwind campaign would be likely to inspire an answer that the hospital was to be a Protestant institution; if he were a Catholic, the person attempting to collect a contribution would be most likely to be sure that the institution was to be conducted as a Catholic hospital, and so on down the long gamut.

Then the question of the permanent board of trustees, the number and character of its membership, would come up for solution in the same way; that is, those asked for subscriptions would want to know who were going to be the members of the board, and it has happened that the person with the subscription list would say, "I don't know, but I will ask," and the person he asks is the active campaign manager, who is working for a fee, and the answer is quite likely to be made just exactly to fit the individual making the inquiry. And many a contribution has been signed to a subscription list predicated on the statement of the person with the list that the prospective donor was slated for membership on the board of trustees. Of course, after the campaign is all over and the enthusiasm has oozed out, this subscriber is likely to wake up and find that it was never the intention to make him a member of the board of trustees, and he, on the other hand, is quite likely to repudiate his subscription—that has happened.

The writer of this paper has been criticised many times for his attitude toward the whirlwind campaigner, and he has been asked repeatedly to make his criticism constructive and not to condemn a system without offering a substitute. Unfortunately, that is exactly the situation. The only substitute that can be suggested for the whirlwind campaigner is the voluntary community itself, unaided by trained direction. Some day, perhaps in the not far distant future, this question of the raising of funds for hospitals and similar institutions will be settled by the creation of perhaps some national organization employing trained agents, who, under salary from the organization itself, can be sent into the community that wants a hospital and work wholly for the good of the community itself and without reference to any financial interest of their own, because in such a case the hospital board would engage with this corporation to pay a certain fixed sum without reference to the amount of money collected. Such a system would be ideal because it would provide trained aids in a community desiring to raise funds, and there would be no stimulus to improper activities on the part of those engaged to help raise the funds.

Heretofore we have been thinking about the building funds of the hospital. There is not so very much to be said about the fund for its permanent support, excepting this: that the finances of the hospital should be definitely provided for on some reasonably safe basis, so that there would not likely be a regular annual deficit. For instance, if it is to be a 50-bed hospital divided into a small number of private rooms, a few small private wards, and the balance of the beds in larger wards, then every bed in the hospital should have a price set for its occupancy. Then it would be safe to subtract 25 percent from the different classes of beds or rooms or wards for non-occupancy and add up the 75 percent, the total of which would be the maximum on which the hospital could count as its gross income from patients' beds. If it is intended to practice the method of charging for the various services in the hospital, such as special diets, special medicines, laboratory fees, x-ray plates, etc., these will sometimes be sources of income over expenditure, but as a rule such charges cannot be set down as likely to provide any profit for the hospital's operations, at least for some years to come, and indeed the whole practice of these special charges is rapidly and justly becoming obsolete, on the ground that

when a patient goes to a hospital he and his physician have a right to expect that that hospital will furnish all of its facilities for the diagnosis and treatment of the disease from which the patient is suffering. Special charges for these facilities have given rise to an immense amount of trouble and dissatisfaction between patients and their hospitals; frequently special charges in such hospitals aggregate more than the room rent, and the sick person who is expected to pay, let us say, $15 for his bed per week, and had arranged perhaps for that amount, when called on to pay another $15 or more in the shape of special charges will be very greatly embarrassed, disappointed, and oftentimes angered, and the cure for which he came to the hospital might be seriously impeded and interfered with because of his mental worry.

It is pretty nearly impossible to say, before a hospital is in running order and before its organization and equipment are complete, what it is going to cost to run it, for several reasons. In the first place, very much depends on the character of the medical staff. If the men who are to bring their patients to the institution are not going to have the scientific facilities to which they have been accustomed and which they scientifically know about, they are going to be dissatisfied, and the hospital may lose many patients that are allowed to remain at home that would otherwise have been practically forced by their physicians to go to the institution. Not long ago Bellevue Hospital, of New York, reported that more than 50 percent of the cases that had come to autopsy in the institution were incorrectly diagnosed. It is impossible, of course, to say how many of those cases might not have come to autopsy if proper diagnosis had been made, but if Bellevue Hospital, with its magnificent group of medical men, failed in more than 50 percent of cases in which the illness was so serious as to cause death, is it likely that the patients in a small community would fare any better, and would not the facilities of a hospital in such a community be of immense service to the medical men, and would not many cases that might otherwise stay at home be sent to the hospital if the physicians knew that they could depend on the facilities for helping them to make a correct diagnosis and giving them proper treatment? But these scientific facilities in a hospital cost money, and the expense must enter into the per capita cost of the patients and bring that per capita up considerably. Then, the overhead expense in a hospital is the largest item, and it makes very little difference if in a 50-bed hospital there happen to be only 35 patients. The expense would be pretty nearly the same as though there were 50 or even overcrowded to 60 patients.

But these contingencies should be taken into account, and some attempt made to average up the probable cost of maintenance of that hospital. This can be done within a fair degree of accuracy, and then the money necessary to meet these expenses should be raised, or the proposed per capita cost, including the overhead expenses of running, should be cut to meet the probable income. For the first year or two there might be a failure to approximate the two accounts—income and expenditure—but after that it would be fairly easy to "temper the wind to the shorn lamb," so to speak, by cutting the expenditures to meet the income, and then whatever charity work it is intended to do should be done outside of this business organization; in other words, if the hospital is running on an even keel and is barely self-supporting without taking any charity patients, that situation should continue until the income can be brought up or the expense brought down, or until separate funds are provided from some source to take care of any charity work that is wanted to be done.

There is really only one way to raise money for the permanent support of a hospital of the kind that we are just now thinking about, and that is by annual subscriptions from the people in the community who can afford to give for such a purpose; and the best way in the world for a board of trustees to encourage the subscription of funds for the support of the hospital is by presentation of accurate, conservative, and understandable figures to show what the hospital is costing. A paragraph of such a report can tell what the hospital is doing, but the costs must be in figures, and they must be accurate in order to encourage the enthusiasm of people who would be willing to give for hospital purposes if they just knew that their money was to be used properly.

Suppose the hospital were going to cost $2,000 a month for maintenance. How easy it would be to take that figure and go with it into the community, and how easy the last few hundred dollars would be to get because almost anybody will give a little help to round out a hospital supporting fund.

Of course, the prime necessity in an enterprise of the sort that we are thinking about is a board of trustees in whose members the community has confidence. The next prime necessity is to conduct the institution so that that confidence can be maintained. We all of us know hospitals in this country situated in comparatively wealthy communities and that have the hardest kind of time to keep going; to their boards of trustees it is inconceivable that anything that they themselves may have done or left undone is responsible for this

situation, but, as a matter of fact, the failure of the community to support these hospitals is due to the character of the service that the sick get in them. This writer has seen many institutions that were running behind and in hard financial straits, and whose board of trustees was at its wits' end to account for the lack of interest on the part of the community in the institutions. This writer has seen these hospitals brighten up, pay their debts, and have money in the treasury by the simple process of a reorganization of the personnel in the management, by the introduction of a superintendent who knew what real hospital service was and who gave it to the community. In some cases it took no longer than thirty days for the doctors in the community to know what had happened and for the hospital to fill up with patients. There is another prime necessity concerning the financial stability of a community hospital, and that is the careful keeping of the accounts, but this brings up another topic that will be discussed later on.

Next month we will take up the planning of the small community hospital, the internal arrangements and the reasons therefor, the materials to be used, and the question of costs.

PRINCIPLES OF DAYLIGHT AND ARTIFICIAL LIGHTING OF HOSPITALS[1]

Source of Light Is First Consideration—Study of the Human Eye—Anatomical and Psychical Requirements—Special Demands in Hospitals—Lighting the Ward—The Operating Rooms—Service Departments—Running the Circuits

By E. R. KNOWLES, E. E., C. E., of Cornelius S. Loder and Associates, Consulting Engineers, New York

INTRODUCTORY

LIGHT is the thing we recognize by the sense of sight, and the sensation of vision is the process of seeing things.

We see an object when light falls upon it and is reflected from the object to the eye, and the object upon which the light falls becomes illuminated; illumination is therefore an effect, or result, produced by light.

In order that any person may work to the best advantage and the highest efficiency his proper housing is a matter of the greatest importance, for upon his surroundings and facilities for work depends his effectiveness of operation.

In this connection the question of illumination plays the most important part.

No matter how well one is supplied as to room space, desk and furniture outfit, heating and ventilation, telephone and stenographic service, filing and card systems, all of which tend to the best of service, if the lighting arrangements are not properly devised and placed as to position, quantity and quality of light, he cannot do his work to the best advantage. This being the case, it becomes of the first importance that the lighting conditions shall be those which are best adapted to the special needs and requirements of the work to be done, and that they shall be as modern and efficient as possible and at the same time as economical in operation as requirements will permit.

Illumination must be acceptable to the eye, and we should be able to see objects clearly and distinctly and with a minimum of eye fatigue.

Efficiency and economy in artificial lighting does not necessarily mean the obtaining of a maximum of light from a minimum of electric current, gas or oil; but it does mean, first, the placing and giving of that quantity and quality of light which will enable the operator, by its use, to do the particular kind of work required in the most efficient manner; and, second, the obtaining of such lighting or illumination at such a minimum of expenditure of electric current, gas or oil as the illuminating requirements will permit—safety and efficiency first, and *then* economy.

To see easily and comfortably without strain and without danger to the eyesight and health there are certain conditions to be fulfilled:

1. There must be such a proper placement or positioning of the light source as will best suit the particular conditions which have to be met, and the light source, fixtures, shades, globes, reflectors and other apparatus must be selected with this end in view. The illumination of an enclosed place has two principal requirements to fulfil, general and special illumination; general as applied to the ordinary diffused lighting of a room; special as applied to the local lighting of desks, operating tables and other special articles and locations which require special treatment as to the location of the light source. It will be evident that the placement and positioning of the light sources are of the first importance and that in determining this no general rules can be followed, save one. Mankind has always received his day lighting from the sky or from above the line of vision; as a result that part of the retina of his eyes on which the light from above chiefly falls is accustomed to it, while the same or even less amount of

[1] This is one in a series of articles on Engineering Problems in Hospitals.

light coming from below the line of vision falls on that part of the retina which is unused to it, with a consequent irritation and discomfort. The remedy is obvious; it is best, whenever possible, to have the source of light so placed that it will be as far above the line of vision as is permissible under the required conditions.

2. The quantity of light received from a light source on a given subject must be carefully considered. What is the light to be used for? General illumination? To read or write by? To bring into view the working parts of a machine? To examine a patient or perform a surgical operation? To match colors? To display goods or pictures? Or to make a pathway safe and plain? Is the color of the object dark or light, and is the object smooth or rough, polished or unpolished. All of these and kindred questions must be carefully considered in determining the amount and kind of light required from a given source.

2a. There must be sufficient illumination to enable objects to be distinctly seen. Saving light at the expense of eyesight is poor economy. Since all objects are seen by the light which they reflect, the amount of illumination will largely depend on the character of the objects themselves, dark objects requiring more light than light ones. It will also be evident that a well shaded source of light which may be of low intrinsic brilliancy when looked at directly, may be so shaded and directed on the object to be seen as to give ample illumination for the required purposes.

2b. There must not be too much illumination; unshaded or brilliant sources of light so placed as to be in the line of vision are fatiguing to the eye and greatly diminish the seeing ability of the user. Even when the light source is not directly in the line of vision, the eye instinctively travels to the bright spot, with a consequent detriment if the light source is brilliant or unshaded. Light sources are being continually improved and made more brilliant as well as more efficient, and their intrinsic brilliancy has reached such a point that in an unshaded condition they are exceedingly painful to the eye and injurious to the eyesight and more than ever before require to be enclosed and shaded to a sufficient degree to obviate this condition. Light, to be comfortable and perfectly safe for the eyes, must not be too intrinsically bright and must come in a diffused or softened form and not directly from the light source itself. It may be stated as a fact that all light sources are too bright to be used uncovered, and where the light is to be used for careful vision they should be enclosed or shaded in such a way as to diffuse their light, and so placed that the eye cannot see the source of light.

3. All fluctuating or flickering light should be avoided. If you go from a dark room into bright sunshine the sensation is unpleasant, and if continued is detrimental to the eye. If you use a light that fluctuates you get the same unpleasant sensations and conditions; the eye gets strained and fatigued in its endeavor to adjust itself to these varying conditions, with a resultant inability to see properly and an uncomfortable and painful condition.

4. The quality of the light must be carefully considered. By this is meant the character of the light: whether white, reddish, yellowish or bluish white, according to the requirements of the work to be done. For instance, in surgical operations, the matching of color tints as in silk or paper mills, the sorting of letters in the postoffices, it is necessary that the light shall be as white as possible; while for general illumination, reading, writing and many other processes a warm, yellowish white is more grateful to the eyesight and can be used to better advantage than the pure white light; and for photographic and kindred purposes the blue white light of the mercury vapor or arc light is preferable on account of its high actinic value.

Lighting may be divided, according to the light source used, into two general classes: natural or day lighting, and artificial lighting. Both of these should be carefully considered and worked out when the question of the proper lighting of a building is under consideration. Daylight is the form of lighting into which we were born and in which we live and to which we are all naturally accustomed. Artificial light is that form of lighting which has been created by man for use during the absence of daylight. Naturally the tendency is to consider daylight as the best for all purposes, so much so that the phrase "make the artificial lighting imitate daylight as nearly as possible" is one commonly heard and one commonly accepted as correct. But is this so and is the assumption the correct one for indoor illumination?

Daylight is very variable in its intensity, is generally too brilliant and sometimes too dull; so that indoor lighting by daylight as commonly practiced is generally imperfect and unsatisfactory. Quite frequently one side of a daylighted room is too brilliantly lighted while the other side has hardly enough light to see by, and one must twist and turn in order to secure a position where the glare of the outer daylight does not fall upon the eyes, and where the object to be observed is properly illuminated. Very little attention, however, is given to means for obviating many of the difficulties attendant upon daylight illumination, although by careful window design and the use of

certain forms of glass in the windows much better and more satisfactory results could easily be obtained.

On the other hand, artificial lighting can be made of any intensity desired, can be maintained at an unvarying intensity of illumination, and can be as evenly and uniformly distributed and diffused as may be desired.

Since we cannot have daylight all the time and must resort to artificial light when daylight is absent, we have instinctively arranged the artificial lighting so that it is as perfect as possible and fills every requirement of good lighting, both as to placement, quality and quantity of the light used; and any attempt to change these conditions and to approximate to daylight conditions would be at once opposed, because the artificial lighting is much more pleasing and restful and really fills all the conditions of good lighting better than could possibly be done by the best and most carefully arranged system of daylighting.

We tolerate daylight conditions as they usually are because in a large measure they cannot be changed; the position of the source of daylight we cannot control; it is movable and is constantly changing its place and varying its intensity. But the source of artificial light we can control both as to position and intensity.

It would seem, therefore, that the arrangement and distribution of artificial illumination is the standard to go by, and that every effort should be made to devise means whereby daylighting could be made at least to approximate artificial lighting, and that very careful consideration should be given to the size, position and arrangement of all windows or openings in the walls of buildings through which daylight must pass and illuminate the rooms within, and to the character and placement of the glass used to close these openings.

In all problems of illumination we must deal primarily with the light source. By a light source is meant a substance which is raised to such a temperature that it sets up vibrations of such character in the surrounding medium that they, falling upon the eye, produce the sensation which we know as light.

From the earliest days some form or source of light has been known and in use. The pine knot torch, the tallow dip, the oil lamp, illuminating gas and the electric lamp were used in turn, and each was superseded as the source of light was improved; but all depend for their illuminating properties on the vibratory principle just enunciated.

The quality and quantity of light given off by such bodies depends very largely upon the type of source; for instance, the carbon filament electric lamp gives off a light which has an abnormal number of red rays in its makeup; the mercury vapor electric lamp gives off a light which has an abnormal number of blue rays; and the most recent, the tungsten filament electric lamp, gives off a white light, which has most nearly the proportions of daylight. This source of light, the tungsten, is the ideal source for nearly all of the present-day lighting and is rapidly displacing the other sources of light, with the possible exception of the Welsbach incandescent gas mantle, which is also a most satisfactory and efficient light source and one widely in use.

The amount of light necessary for good illumination depends upon the purpose for which the place to be lighted is to be used. Thus the requirements for street, house, office, hospital or public building lighting present wide differences, and furthermore depend upon the interior arrangements of the buildings, the dimensions of the rooms, the character and color of the walls, ceilings and furnishings and the individual ideas of the parties interested in the building and its operation; and no absolute rule covering all conditions can be laid down.

The proper method of lighting a room depends upon the style of room, the purpose of lighting and the effect desired, and may be considered under two divisions, general and special lighting: general as to the average requirements of the room, and special as to the requirements of certain portions of the room or certain objects in the room.

There are three types of general illumination in vogue, known as the direct, semi-direct and indirect, the characteristics of each being in a measure indicated by their titles.

In the direct system the source of light is either bare or enclosed in a frosted or opal covering, and is either placed in position in this open condition or is placed beneath a properly arranged glass or metal reflector by means of which the light is reflected direct towards the object to be illuminated; the major portion of the light being so directed, but a small portion passing through the glass reflector to the ceiling and walls of the room, from which it is reflected and diffused through the room.

In the semi-direct system the source of light is placed above or in a glass bowl or reflector, and the major portion of the light is reflected to the ceiling and walls of the room, and from them reflected and diffused generally throughout the room, a small portion passing through the bowl or reflector downward into the room and so adding to the total illumination.

In the indirect system the source of light is placed above or in an opaque reflector or bowl and all of the light is reflected directly to the ceiling and thence again reflected and diffused throughout the room.

In the direct system the floor and lower portion of the room are most brilliantly lighted; in the semi-indirect system the whole room, floor, walls and ceiling, are more or less uniformly lighted; and in the indirect system the ceiling and upper part of the room are most brilliantly lighted.

The trend is toward the ultimate type of system, which is the concealed system of lighting; in which the room is more or less uniformly lighted by reflected and diffused light from concealed sources. The indirect system is the nearest present approximation to this system.

As before stated, the desirable factors in general illumination are: sufficient illumination everywhere for the purpose to be accomplished; no painful or high intrinsic brilliancies visible; no great contrasts in brightness; and soft, pleasing shadows.

As a general proposition the direct system does not satisfactorily meet these conditions, and the choice is largely between the semi-indirect and the indirect, with a preponderance of opinion in favor of the semi-indirect, due in a large measure to certain psychological factors involved. While the indirect system gives a very satisfactory illumination and one which is very restful to the eye, there is a mental equation in most people which cannot be wholly eliminated. For many years prior to the present methods of illumination, people have been accustomed, as soon as darkness came on and daylight disappeared, to light their candle or lamp, which, while it gave the illumination desired, was at the same time visible to the eye and added by its visibility to the apparent cheerfulness of the room and surroundings; and as this has been the practice for so long a time the connection between the appearance or visibility of the light source and the apparent cheerfulness of the surroundings has become unconsciously a part of human nature and the conception has been inherited by one generation from the preceding one. When the average individual, therefore, is an occupant of a room which is entirely illuminated by indirect lighting, a "sense" of darkness and gloom is felt; not that there is this darkness, but the fact that the eye has been trained from time immemorial to see the source of light causes this feeling of discomfort and darkness. It will take a long period of education to eradicate this mental condition, and until this is accomplished the ultimate concealed system of lighting will make little headway.

The semi-indirect system of lighting fulfils all of the illuminating as well as psychological requirements. A room illuminated by this system is bright and cheerful because the source of light, even if of low intrinsic value, can be seen.

Not alone has the character of the light sources been improved and rendered highly efficient, but corresponding advances have been made in the character and forms of reflectors, globes and shades, which are made in endless variety and forms of exact reflecting or diffusing surfaces, so that it is possible to select a form of shade, globe or reflector which will meet any given requirement.

The character and design of fixture for general and special purposes have also been made applicable to practically every lighting condition, and the combination of the placement, quantity and quality of light has been reduced to so scientific a basis that it is possible for an expert engineer to design accurately the proper illumination required for any given condition at a maximum of efficiency and economy. Each case must, however, be carefully studied by itself and by an expert in this branch of engineering if the desired results are to be attained in the most satisfactory manner.

HOSPITAL LIGHTING

While the lighting of the major portion of all buildings is very much the same in all cases, each building has in addition certain portions calling for special treatment, so that the lighting of a building may be divided into two classes, general and special.

Hospital lighting is a very decided example of these conditions. It is almost in a class by itself, combining as it does the requirements of general lighting with more special requirements than does almost any other institution which might be mentioned; and yet, for some unexplainable reason, the question of the proper daylighting and artificial illumination of hospital buildings, has not, until quite recently, received the same careful thought and attention that has made most modern institutions models of elegance and hygienic forethought.

Although ordinary methods of illumination and ordinary illuminating devices fail to give the proper quality and distribution of light which is specially required in many portions of hospitals, many hospitals continue to be constructed without due regard to the principles governing their special lighting requirements and without the service of the experienced illuminating engineering expert, resulting in many cases in faulty and unsatisfactory illumination.

Hospital lighting may be divided into three general classes: ward lighting, operating room lighting, and general lighting in such rooms as offices,

corridors, toilets, kitchen, dining and service rooms, etc.; and many of the latter may also be considered as having general and special conditions. While good lighting is essential in every part of a hospital, the greatest importance attaches to ward and operating room lighting, and there are many special problems connected therewith.

The source of light will in a measure depend on the location of the hospital building, and on whether the building has its own generating plant or is dependent on an outside source. It may be gas, using an incandescent mantle such as the Welsbach; it may be electricity, using an incandescent electric lamp, such as the tungsten; or it may be a combination of both, there being cases where only gas is available, although the almost universally used source is electricity and the electric light.

WARD LIGHTING

The first requisite in hospital construction, equipment and management, is that everything should be arranged so as to bring about tranquillity of mind in the patient in order to add to his chances of recovery; and to this end the chief consideration for the general illumination of a hospital ward is a soft, restful, evenly diffused light, free from glare or any unusual arrangement of great contrasts, such as a bright ceiling and a dark room, or a source of light brighter than the walls or ceiling.

A patient lying on his back in a hospital is usually at a low ebb of vitality and nothing will cause him more annoyance or nervous strain than to be compelled to gaze at a brilliant light source, or to feel that, while there is illumination, there is something missing which his subconscious mentality tells him should be there.

Daylighting of the wards, as well as all parts of the building, should be most carefully considered and every effort should be made to so arrange the position, size and glazing of the windows that a soft, evenly diffused light is obtained in all parts of the rooms, especially in the wards. Very much can be accomplished in this direction by the use of prism glass, properly arranged in the upper portions of the windows, by means of which the light from the sky can be so directed that it will pass across the upper portion of the room and increase the lighting of the side of the room opposite the windows, thus making the lighting more uniform.

Many schemes have been advocated for the correct artificial lighting of hospital wards. For general lighting the most usually approved method is by means of the semi-indirect system of lighting, using suspended translucent bowls of such density that the maximum brilliancy of the bowl is never greater than the ceiling illumination obtained by the light reflected from the bowl to the ceiling. These are each equipped with two and sometimes three incandescent lamps of such candle power that varying intensities of illumination may be obtained, each lamp being independently controlled by a suitably arranged switch. If equipped for two intensities, one should be of very low intensity, just sufficient to enable the nurse at night to wait on the patient; the other should be of sufficient intensity for reading, etc. If a third intensity is added, it should be of such high power as will enable the doctor or surgeon to make an examination; but this is not satisfactory and is seldom done, a different and special arrangement of lighting being provided for examination purposes, namely, either the "bedside" or portable light, or specially arranged wall brackets.

"Bedside" lights are not desirable, and are only used where absolutely necessary. Preference is given to a specially arranged bracket light, mounted on the wall above the bed head, and so arranged that it can be pointed in any direction. This light is furnished with a special form of glass reflector with opaque sides. The reflector is reversible, one side being of concentrating type, designed especially for bedside examination, and obviating the use of a portable lamp by the attending physician. When reversed, the reflector directs the light to the ceiling and so acts as an indirect source of illumination. The opaque sides so close the light in that no portion of it can reach the eye of any other patient in the ward, the bed under consideration being the only one illuminated.

In addition to the careful arrangement of the sources of light, their various positions and intensities, and the finish of the ceiling and walls of the ward, should be very carefully considered, as upon these factors largely depends the success of the lighting arrangements and the ultimate restful and soothing effect of the ward. The most pleasing and satisfactory results are obtained by treating the ceiling with a flat white surface and the walls in a slightly darker tone, such as buff or French gray. The fixtures should also be specially designed along plain, smooth lines and finished in white or a light color to match the walls and ceilings of the room, all violent contrasts being avoided and everything likely to attract the patient's eye being carefully eliminated.

OPERATING ROOM LIGHTING

The problem of the successful lighting of the operating room is one of the most difficult in illumination and one to which a large amount of careful consideration has been given. Unlike

ward lighting no necessity exists for an even illumination of low intensity. No restful or soothing conditions are required in the operating room; the patient is unconscious, and the surgeons and attendants are very much awake and on the point of extreme activity and attention, with the result that in color the lighting must approximate daylight as closely as possible, must be ample, intense and directed in such a way that the operator can see with the utmost accuracy and clearness the parts on which he is operating.

The equipment should be designed along plain, smooth lines, so that it will not catch dust and can easily and readily be cleaned. As the operating room is generally finished in white, and all attendants are clothed in white, the general illumination of the room outside of the operating table can be very readily taken care of. The main point to be considered is its proper placement in order to prevent any possibility of the source of light shining in the eyes of the operators and so producing glare and inefficient visualization.

Very many methods of lighting the operating table have been devised and more or less successfully used, a good deal in this connection being dependent upon the temperament and individual requirements of the operator, the lighting conditions which are eminently satisfactory to one surgeon being useless to another; and as he is the central and important figure and upon whom depends the outcome, it is of the utmost importance that the lighting conditions shall be such as best suit his desires. This being the case, it is impossible to lay down any fixed rules governing this special lighting; each operating room and the requirements of the operating surgeons must be studied separately and a system of lighting arrived at which best fills their requirements. There are a number of special forms of lighting fixtures for the operating rooms, all of which give very satisfactory results.

One other point in connection with the lighting of the operating room which must not be lost sight of is the need of absolute certainty of the continuity of the lighting during the operation. The extinction of the light for even an instant of time, occurring at a critical point in the operation, might work irremedial disaster. To prevent such a possibility, the lighting system of the operating room should be arranged in duplicate and from different sources if possible, so that a constant source of illumination is assured.

Gas, either illuminating or blau, with Welsbach mantles, may be used for this purpose, the operating room being piped for such reserve lights; and with properly arranged fixtures and pilot light control, these gas lights can be kept realy for instant use if required. There should also be provided a number of plug outlets, located at various points in the operating room, to enable the ready use of a portable, hand or other special lighting device if required.

GENERAL LIGHTING OF THE HOSPITAL

Aside from the wards and the operating room the lighting of the other sections of a hospital building are, with a few exceptions, quite general in character and following along the lines of the best practice for hotel, office and other large buildings. Halls and corridors, living and dining rooms, dormitories, utility rooms, kitchens, laundries, toilet and bath rooms, and other general rooms are in a class with similar portions of hotels, care being taken to make the lighting of the doctors' and nurses' quarters as cheerful and comfortable as possible. Offices, reception and consultation rooms are in a class with similar rooms in office and other large buildings and should receive the same careful attention. Dispensaries, laboratories and other similar rooms are in a class with the modern drug store and college laboratories, special attention being given to the proper lighting of the prescription counter and lighting for microscopic and other technical work.

If there is a maternity or childbirth room forming part of the hospital, its lighting arrangements should follow along the lines of the ward lighting, especial attention being given to the bedside lighting, which should be easily controlled as to position and direction and of ample intensity of illumination for the purposes intended.

All closets for clothes, medicines, linen and other materials and appliances should have a light in each, so arranged that it will be automatically lighted and extinguished when the door is opened and closed. The entrance steps and entrances to the building should be well lighted and especially should there be ample light at the street, sidewalk or curb, so arranged as to indicate that the building is a hospital; and if there are grounds surrounding the hospital buildings, they should be well lighted.

CURRENT DISTRIBUTION

The current distribution system and its controls should be as simple and reliable as possible, every part being of the best that experience and practice dictates. All wiring should be in metal conduits, all switches and other controls should be enclosed in metal boxes; and, in fact, the whole distribution and control system should be, as far as possible, in metal from the source of current supply to each light or other operating appliance. The distribution system should be subdivided so that each floor and subdivision of a floor can be

separately controlled, such control points being so located and indicated that they are easy of access and can readily and quickly be found. All corridor, stairway, toilet and other public lights should be independently circuited and arranged and separately controlled from the other circuits of the building, preferably at some point on the main floor near or in the main corridor or superintendent's office.

A complete and independently controlled system of fire-escape lights, of a distinctive and easily recognized character should also be installed, as also a fire signaling and alarm apparatus, which shall be capable of indicating the location in the building where the fire is, and of notifying the tenants of the building at that point of the existence of the fire.

All signals from the ward rooms to the nurses, and, in fact, all signals from one section to another, should be of the silent type, indicating by lights or drops, or both, the point to which attention is required, no bells or buzzers being used; and all switches in the ward and other sick rooms should be of the silent type, making no snap or click when operated, quiet and silence being of the utmost importance in these places.

An ample number of insertion plug outlets should be arranged in all main rooms and corridors for the insertion of special lights and special heating appliances, the circuits in which they are arranged being independent of the lighting circuits of the rooms.

As this article deals only with the illumination of hospitals, the questions of heat and power are not considered except that it may be said generally that the electric current may also be used for all manner of power applications, and with great economy and ease of operation; also the electric current can very conveniently be used for many heating purposes, such as operating the kitchenettes for cooking and warming food, toasters, hot water heaters and many other special purposes where ease and quickness of service are of more importance than the actual cost of the service.

The question of the source of electric current, whether from an isolated generating plant operated by the hospital, or from some local central station, is one which should receive careful consideration. Generally speaking, the greater number of kinds of operations to be provided for the more certain it is that the isolated plant is the preferable source of electric current.

In a hospital there are very many requirements; light, heat, power, refrigeration, ventilation, vacuum cleaning, hot water, steam, hot air, compressed air, sterilizing apparatus, etc., all of which can usually be better and more economically operated by the isolated plant than in any other way; so the question of an isolated plant should in each case be very carefully considered.

The foregoing article is intended to give, in as brief and concise a form as possible, a general statement of the problem of hospital lighting, a somewhat intricate and difficult problem, and one which requires very careful consideration of all of its details by those expert in illuminating matters, bearing in mind at all times safety first; then efficiency; and then economy.

FAKERS IN TUBERCULOSIS HOSPITAL

One of Them in Startling Affidavit Confesses Widespread Swindling to Gain Admission

That a large majority of the 3,000 patients in the tuberculosis hospitals in New York city are fakers and frauds, and are not suffering from tuberculosis, is the assertion of one William A. Smith, recently a tuberculosis patient in St. Vincent's Hospital, West New Brighton, Staten Island. In a remarkable affidavit this man Smith has recently confessed that he has been a patient in four tuberculosis hospitals in New York during a period of eighteen months, and that he knew he did not have tuberculosis or any other disease making it necessary for him to accept hospital treatment. During those eighteen months Smith claims to have gone about New York city unmolested and without any interference from the institutions at which he was supposed to have been under treatment.

Smith's statement has been partially corroborated by Dr. Robert McCully, house physician of St. Joseph's Hospital, One Hundred and Forty-third street and Brook avenue, New York, where Smith first became a patient, and by Dr. G. Totten McMasters, of New Haven, formerly of the Presbyterian Hospital, New York.

Smith declares that any person with a letter from a "ward heeler" can obtain admission to any of the tuberculosis hospitals of New York. He says he entered Bellevue Hospital by that method, and in his affidavit also tells a weird story about a traffic among malingerers and tuberculosis patients in the New York hospitals. He says that this class of fakers understand perfectly well that the so-called sputum test is the only examination given for admission to these hospitals; that when one of these fakers wants to enter a tuberculosis hospital for a few weeks' or months' sojourn, he buys a bottle of tuberculosis sputum from one of the patients who actually has the disease and submits it as a sample of his own secretion.

Dr. McCully, in commenting on Smith's confession, admits that the sputum test is not efficient or satisfactory, and that fakers could easily do what Smith says he has been doing. In all likelihood there will be a very radical shake-up in the methods of admission to the New York tuberculosis hospitals, and it is probable that other communities will find that they too have been victimized in the same way.

The elements which ought to determine the position of a hospital are the following: first, and before all others, purity of the atmosphere; second, the possibility of conveying the sick and maimed to it; third, accessibility for medical officers and for the friends of the sick; fourth, convenient position for a medical school if there be one.—Florence Nightingale.

UNITED STATES NAVY TUBERCULOSIS SANATORIUM, FORT LYON, COLO.

Abandoned Army Post Near Las Animas Lends Itself Well to New Purpose—An Ideal Climate, Beautiful Location, and Sanitary Surroundings—Arrangement of the Buildings

By OUR SPECIAL CORRESPONDENT, Washington, D. C.

THE president, by executive order, October 25, 1906, set apart certain sections of the Fort Lyon (Colorado) abandoned military reservation, containing 575.19 acres, with the buildings thereon, for use of the navy department for the purpose of a sanatorium. With this provision made, the work of putting it in readiness for the reception of patients was immediately instituted and has been carried on with very gratifying progress.

Fort Lyon is excellently adapted for the purpose of a sanatorium. It has an altitude of 3,800 feet above the sea level, and is situated on the north bank of the Arkansas river, five miles from the town of West Las Animas, on the Atchison, Topeka and Santa Fe Railroad, which passes within one mile of the reservation. The nearest spur of the Rocky Mountains is about one hundred miles distant.

Fig. 1. United States Navy Tuberculosis Sanatorium. General view, parade grounds, officers' quarters, water tower, etc.

The climate is mild and dry, with a maximum supply of sunshine and a minimum number of even partly cloudy days, comparing favorably with both Fort Stanton and Fort Bayard, New Mexico. The summers are a little cooler, the winters a little colder, the amount of rainfall, as shown by observation, a little less, and the amount of sunshine equal to that enjoyed by the above-named places, being in the neighborhood of 80 to 85 percent annually. In the summer the mornings and nights are bracing, and even at midday the heat is never exhausting. The winter climate is so satisfactory that in past years the Indians for hundreds of miles around always wintered in the valley. The average rainfall is eleven inches, which constitutes a very dry climate; snow falls infrequently, is seldom more than three inches in depth, and disappears quickly.

The fact that the authorities of Colorado made efforts to have Congress cede the location to them as a site for a sanatorium for indigent consumptives of the state would indicate its suitability for such an institution.

The location is a sandstone bluff, 2,000 feet wide and 1,500 feet long, 36 feet above the river, and slopes in all directions, giving excellent drainage.

The conditions at Fort Lyon for a sanatorium are as admirably combined as anywhere else in the United States. The climatic conditions are such that the patients can live out of doors the maximum amount of time, day and night, during the entire year, which, after all and above all, is the great consideration.

The old buildings, left by the army, that did not interfere with the general scheme of the sanatorium, were renovated and restored, and the others have been razed. Many new buildings have been constructed. In addition to these permanent structures, there is an extensive camp of tents, all durably set up in orderly arrangement on skeleton frames. The tents are arranged and furnished to accommodate two patients each, are roomy and airy, have side curtains which can be rolled up, and are screened in for protection from flies and mosquitoes.

The old parade ground has been left unobstructed as a center, and around it are grouped the various buildings. The immediate north side is occupied by the old officers' quarters, which have been placed in excellent repair for the accommodation of medical officers on duty. To the rear of these is a row of five cottages for the pharmacist and married hospital stewards. They are very commodious and pleasant quarters, all having broad verandas. The old military hospital, toward

Fig. 2. United States Navy Tuberculosis Sanatorium. Panoramas of quarters and Arkansas river in background.

the east corner of this section, has been modernized for the care of the serious cases. The building has been arranged so as to give as much open-air treatment as possible. The veranda is provided with glass shutters, so that when there is occasion it can be completely inclosed and patients can spend their days and nights there even during inclement weather. The addition of a kitchen, pantry, dining room, toilet room, and lavatory, and the equipment of a dispensary and of an up-to-date operating room for the care of emergency cases or for the surgical treatment of tubercular patients, makes it a complete establishment in itself, with a capacity of about 30 beds.

Fig. 3. United States Navy Tuberculosis Sanatorium. Officer patients' infirmary and quarters.

On the south side of the open quadrangle, facing the officers' quarters, is the administration building, remodeled from the old headquarters. It is a large and commodious one-story structure, and contains offices for commanding, executive, and pay officers, a well-appointed library, an assembly hall, physical examination rooms, x-ray room, dark room, and an extensive, splendidly equipped laboratory for all kinds of research, particularly the study of tuberculosis.

Special provision for the ordinary tubercular sick, not requiring hospital treatment, has been made by the construction of four lean-to frame wards, each with a capacity of 16 patients. These wards are of the type for open-air treatment of tuberculosis, built practically on the plans used by the Agnes Memorial Sanatorium in Denver, Colo., and all have a southern exposure. Each building has a central two-story section, with reading room, office, and lavatory on the first floor, and living quarters for four hospital attendants on the second floor. On each side are the lean-to wings for patients, eight in each, with half-roofed 12-foot verandas on the south. Full-length sliding doors, one for each individual, connect the main sleeping rooms with the veranda and permit the ready transfer of beds to and from the rooms, as the weather conditions or hours of the day may indicate.

Fig. 4. United States Navy Tuberculosis Sanatorium. Infirmary, marine barracks, and tents. Power house in rear.

A special subsistence building is located just to the east of the lean-to wards. It is a spacious building, with a main dining room for patients, seating about 140, a dining room for attendants, one for hospital apprentices, a store room, pantry, and kitchen. All the arrangements are complete. The kitchen has modern equipment throughout. The bakery, a separate building, is in the rear, has been planned on a liberal scale, and is modernly equipped, the question of future expansion of the sick accommodations being duly considered.

The power house contains, in addition to the boilers, dynamos, ice machine, and large cold storage rooms. The plant furnishes heat, hot water, steam for sterilizers, motive power for machinery, electricity for lighting and other purposes, and ice for the sanatorium. A laundry building is close to the power house, and is equipped with the latest improved machinery. The morgue is complete in every respect to meet present-day requirements.

The garbage crematory is of large dimensions for the rapid and efficient disposal of refuse. The recreation building contains billiard tables, bowling alleys and arrangements for many other games, small theater, and a library.

The post exchange furnishes patients of that remote station with all the necessaries and even luxuries which can properly be permitted them as an additional comfort.

The commanding officer, Medical Inspector George H. Barber, United States Navy, has as his assistants Surgeon R. Roller Richardson and P. A. Surgeons Ansey H. Robnett, Charles J. Holeman, and Penlie B. Ledbetter, all of the United States Navy.

SHOULD THE HOSPITAL BUY POWER OR INSTALL A PLANT?

A Number of Conditions Operate to Decide the Question—Price Is Usually the Great Factor, but Size of Institution and Multiplicity of Requirements Are Important

By FRANK SUTTON, Consulting Engineer, New York

ONE of the most important subjects, and one which generally confronts the builders of a hospital or similar institution, is whether to install electric generators for producing current for electric light and power, or to buy current from some public service corporation. There is always a long discussion and numerous conferences between the owners, architects, consulting engineers, and public service representatives, and in a number of instances it sifts itself down as to who is the most convincing talker, the consulting engineer or the public service representative. Such a condition of affairs is manifestly all wrong, and it seems to the writer from the experience which he has had that there ought to be some means devised for arriving at a proper conclusion in such an instance, and especially on such an important subject.

The principal points to be considered in such an instance would be the size of the institution, which would naturally govern the amount of moving machinery to be installed and the cost or approximate cost of generating the electricity, which would be compared with the price at which current could be purchased.

In a small institution, where the amount of moving machinery—that is, steam-operated machinery—is limited, it is generally the practice to purchase current from a public service corporation, which current is generally purchased on a sliding scale at a price per kilowatt hour, starting at about 10 cents per kilowatt hour and reducing to about 5 cents, depending on the amount of current consumed. These rates vary in different states, and in most instances the rates are established by legislation.

When the buildings comprising the institution commence to assume larger proportions, the board of managers generally decides to install mechanically operated laundries, refrigerating plants, and, in most instances, quite a number of auxiliary steam or electrically driven pieces of apparatus for different uses around the institution. It is at this point where the question always arises as to whether they should install their own electric generating plant or buy the current from some outside source, and it is at this point that the discussion starts.

The average electric generating plant can produce current, including fixed charges and depreciation on the plant, for from 3½ to 5 cents per kilowatt hour, and, if the plant is well designed and properly operated, current can be produced at a lower figure, probably in the neighborhood of from 2½ to 3 cents per kilowatt hour. Of course, in some localities where public service current is produced by hydroelectric plants, or where coal is very cheap, current can be sold from 1½ to 2 cents per kilowatt hour, and when it gets to this point it is a question, in the writer's opinion, as to whether it is advisable to go to the expense of installing generators.

There are a number of advantages in an institution having its own complete plant, and there are still advantages in having an outside company furnish current, and there are good arguments always put forth for either one side or the other.

If a public service corporation quotes a rate of from 3 to 5 cents, depending on the amount of current consumed, the institution should carefully consider installing their own generators. The advantages obtained from them are as follows:

The exhaust steam from the engine plant can always be utilized not only in the winter months,

but also in the summer months. The principal uses for exhaust steam, which generally exhausts at a pressure of from 3 to 5 pounds above atmosphere, can be utilized in the winter for heating the building and in the summer months for heating hot water for domestic purposes, and also for operating ice-making machines, if the absorption type of refrigerating apparatus is installed, which runs principally on low-pressure steam. When the plant assumes these proportions, the extra expense for operating engineers' services is nothing, as the same engineers who operate the other moving machinery can also operate the electric generators.

The institution has the further advantage, if the plant is installed in duplicate, of being practically assured of electric service at all times, as transmission lines have been known in a number of instances to break down, thereby temporarily cutting out the current. Of course, the same argument is brought up, on the other hand, by the public service representatives, who will invariably put forth the argument that the private generating plant is apt to break down, but from the experience of the writer, and the way in which modern machinery is constructed, the chances of break-downs at the present time are very remote. There is, however, another phase of the question which should be considered in the installation of electric generators, and that is the first cost, as we all know that, with the exception of a very few institutions of a private character, it is a question of dollars and cents in building a hospital, and any extra equipment will have to be paid for, and therefore the owners should generally consider whether they can afford to spend anywhere from $5,000 to $10,000 extra for the cost of a plant when this same money could be utilized for more beneficial purposes in other parts of the building. This, in the writer's opinion, under conditions named, is the principal objection to the installation of an electric generating plant, provided the institution is situated where current can be produced for from 2½ to 3 cents a kilowatt. Of course, there are instances where the cost of fuel is very high, as well as labor, and where the actual cost of generating current would probably be from 4 to 6 cents. In an instance of this kind it is generally found that the public service corporation can furnish current at a very reasonable price, and it would therefore be the part of wisdom to seriously consider buying the current instead of putting in the plant.

Some of the disadvantages of installing a private plant are, as has been stated above, the first cost; then, again, the extra moving machinery to be looked after, which requires a certain amount of care and attention. These two are really the only disadvantages that the writer can figure in the installation of a private plant. Of course, these disadvantages, on the other hand, would naturally be the advantages of buying electric current.

In connection with this subject the writer can think of no points in the construction of an institution where more mistakes are made than on this very question. Without mentioning the name of the institution, the writer knows of an instance at the present time of a large hospital which has been completed about a year, housing from about 400 to 500 patients, where a complete equipment has been installed—that is, a high-pressure boiler plant, refrigerating apparatus, mechanical laundry, and all the other paraphernalia going with such an installation—and current is being bought at the flat rate of 5 cents per kilowatt hour. Up to the present time it has been demonstrated that, if a plant had not been installed, this institution could have saved anywhere from $5,000 to $8,000 per year.

There are many other similar instances that can be cited where the same mistake has been made, only in a greater degree. This is principally true in connection with municipal work, where the municipal authorities pay too little attention to engineering advice, although I have been informed by a number of people directly employed by municipalities that one of the principal reasons for omitting private plants and taking current from public service corporations is not due to the fact that they can buy current cheaper, but primarily is due to the fact that the average employee of a municipality does not take sufficient interest in moving machinery to get the proper work out of it, or take proper care of it, and therefore a number of municipalities reason that it is cheaper for them, due to maintenance, to buy public service current. This, of course, does not apply to such a degree in private institutions.

As stated in the first part of this article, it is an extremely difficult matter to arrive at the proper conclusion when a plant assumes the proportion of a good-sized installation, and arguments can be propounded for and against the installation of private plants, and generally are, when such a matter is considered. The writer, however, is frank to confess that, unless a public service corporation can furnish current for from 1½ to 2 cents per kilowatt hour, the private plant has much the better of the argument, and should without doubt be installed, provided, however, that the institution is not going to cripple itself financially by spending the extra money for the installation of the plant.

ARTIFICIALLY COLORED FOODS

Colors Are Used Either to Satisfy a Perverted Taste or to Conceal Inferiority—An Increase In the Kinds of Coloring Matter Used

By JOHN PHILLIPS STREET, Connecticut Experiment Station, New Haven, Conn.

THE use of artificial colors in foods and drinks has greatly increased during the last two decades, both in degree and in the variety of colors employed. Where formerly a few well-known coloring matters, chiefly vegetable, and a few mineral pigments, were used, a vast array, mainly coal-tar products, is now found.

Some years ago the use of such pigments as chromate of lead was quite common in confectionery, particularly in the cheaper sorts, but today this coloring matter is rarely, if ever, used. Other mineral pigments, obviously unfit for use in food because of their well-known poisonous effects, are those containing various salts of mercury, arsenic, and copper, but fortunately the use of these also is practically a thing of the past.

At the present time the great majority of the artificial colors used belong to the class of coal-tar products known as aniline dyes. These dyes number about two thousand, and scores of them have been and are used in our foods and drinks. In view of their prevalent use, it is indeed fortunate that many of them are quite harmless and are so powerful that only small amounts need to be used to secure the desired results. For instance, one ounce of auramine is sufficient to give a deep-yellow color to a ton of confectionery. On the other hand, certain coal-tar colors are decidedly objectionable from the standpoint of health alone, and under no circumstances should be used in foods. In this class are included those in connection with whose manufacture arsenic, mercury, or other metallic poisons have been used, and those which are inherently poisonous, like picric acid and Martius' yellow.

Unfortunately, the United States Government, chiefly in answer to the clamor of business interests, soon after the passage of the Federal food and drugs act in 1906, granted permission to use seven coal-tar dyes in foods, the so-called permitted colors. While the names of these dyes will not mean much to the average consumer, or even to the physician, and while unfortunately they are seldom found on the food label, nevertheless it is well that the consumer should familiarize himself with them. These permitted dyes are: amaranth, naphthol yellow S; ponceau 3R; light-green S. F. yellowish; erythrosin; indigo carmine; orange I.

When the food label bears the word "artificially colored," if a coal-tar has been used, it is usually one of these or a mixture of them. These colors were selected by the Government because by most authorities they are considered harmless because they are not patented, because they may be obtained in pure condition, and because of "the unanimity of opinion among the manufacturers or their agents as to their fitness." The last-named reason is particularly illuminating, as it emphasizes how in past administrations the interests and claims of the manufacturer have been paramount to those of the consumer. The only protection to the consumer, and it is indeed but slight, lies in the fact that, in order to be used in foods, even these colors must be certified as to their purity and the presence of the artificial color must be declared on the label.

The next class of colors in most common use are those of vegetable origin, and in general may be considered harmless. The most important of these, judged by the extent of their use, are turmeric, annatto, caramel, saffron, cudbear, fustic, quercitron, logwood, and the various fruit juices. Annatto was formerly much used to color butter and milk, but has been supplanted largely by oil-soluble coal-tar dyes. Cudbear is used in jams, jellies, and fruit juices; caramel in flavoring extracts, soft drinks, mince meat, vinegar, and whisky; turmeric in mustard and other spices, prepared mustard, pickles, relishes, macaroni, spaghetti, noodles, salad dressing, and lemon extract. The use of turmeric is sometimes justified by its slight condimental value, but in general its use is simply for purposes of deception as to quality.

About the only animal color used is cochineal, better known under the name of "carmine." This is doubtless also a harmless color if one can free himself from the psychological effect of the knowledge that it is simply the extract of dried and ground insects.

As previously stated, few mineral pigments are used at the present time. Iron oxid is, however, occasionally found in cheap chocolate candies, and ultramarine is very commonly used in infinitesimal quantities in refined sugar to counteract its natural yellowish tint. Prussian blue, a very poisonous compound, is still used in the "facing" of tea and the "glazing" of coffees. Another mineral, sulphate of copper, although not in itself a pigment, has been widely used in the so-called "French" peas, imparting to them an unnaturally brilliant green color. The use of this mineral in

peas, beans, etc., is now interdicted by our Government, the interdiction applying as well to the imported as to the domestic product. Whole pecan nuts, too, are also frequently colored with an ochre, giving them a rich brown color and a fictitious appearance of superiority.

In vinegar we find still another coloring material, which hardly belongs to any of the classes already mentioned. Cider and malt vinegars are the most highly valued of all vinegars in this country, chiefly because of their body and flavor. Their natural color is a pale brown. At the present time distilled vinegar, or dilute acetic acid, is rapidly driving high-class vinegars from our markets, and its most efficient aid in this respect is artificial color. A quart of malt infusion in a barrel of distilled vinegar gives an excellent imitation of malt vinegar as regards color, just as a fraction of a percent of caramel converts distilled vinegar into "best cider" vinegar. A mixture of about 80 percent of distilled vinegar and 20 percent of so-called "molasses" vinegar is widely sold, sometimes as compound vinegar, but all too often as cider vinegar.

What are the reasons for this frequent use of colors in our foods? They are mainly two—first, the foolish demand on the part of the consumer for highly colored foods and drinks, and, second, the desire to conceal inferiority, or, what is the same thing, to make a food product appear better than it really is.

The manufacturer is not alone responsible for the painted foods of today. It is a truism that no manufacturer will long produce what he cannot sell, and the consumer is by no means blameless in this matter of colored foods. Too often it has been his demand that has led to the production of the "coppered" peas and the brilliantly colored jams and jellies, flavoring extracts, cordials, fruit juices, and alcoholic and nonalcoholic drinks. If one wishes to give a St. Patrick's Day luncheon, there may be some excuse for green-colored foods on the table, just as for a "pink tea" it may be desirable to serve only delicacies of a pink color. These exceptional occasions, however, too often are apt to become the rule, and our tables become laden with foods of rainbow hues in the attempt to appeal to perverted senses and jaded appetites.

The chief purpose, however, in the use of colors is to conceal inferiority. By a judicious use of color the most inferior product may be given a semblance of quality. This is especially true of jams, jellies, and ketchups. It is a common practice in making jams and jellies to substitute apple stock, or even apple wastes, for the higher-priced fruits. A careful use of color can easily convert apple waste into what appears like raspberry or strawberry jam or jelly. In the same way color permits the catchup manufacturer to use his factory offal, consisting of skins, cores, and in some cases the table sweepings, in making up his product; cider wastes, properly colored, too, have been utilized in making these cheap ketchups. It is apparent, therefore, how the concealment of inferiority is the chief factor determining the use of color in many of our foods.

The food artist has even gone so far as actually to paint food in the strictest meaning of the term. The smoking of fish naturally causes a loss of moisture in the fish and a consequent shrinkage in weight. To avoid this loss, it has been found in some cases that the manufacturer has either only partially smoked his fish or omitted the smoking process altogether, and secured the requisite smoked tint by an application of paint of the proper color. Cases are also on record, and of quite recent date, where cheaper fish of similar texture have been actually painted to resemble salmon.

Now, what are the objections to the use of color in foods? From the standpoint of health, it cannot be said truthfully that the great majority of food colors are injurious. In isolated cases we find poisonous colors used, but these are quite exceptional. The chief objection to artificial colors in food is the commercial deceit which they encourage. Their use enables the manufacturer to sell inferior food materials under the guise of high-grade foods. Their use minimizes the importance of using good, wholesome raw material and of careful manipulation of this raw material. With the exception of confectionery and certain dessert preparations, in which artificial color may be used purely for esthetic purposes, the use of colors in food is mainly for the purpose of deception as to the food's origin or quality.

Furthermore, this use of colors creates false standards of quality. The intense and striking colors bestowed on the cheaper varieties of jellies, jams, ketchups, and other foods, which are so common in our markets, give these products only a faint resemblance to the genuine uncolored food, and in many cases tend to mislead the public into looking on the genuine product as inferior by contrast, and to create a demand and a craving for these unnaturally colored preparations. Repeatedly there have been sent into the writer's laboratory samples of lemon extract, suspected by the purchaser of being adulterated because they lacked the familiar intense yellow color. As a matter of fact, many of the purest lemon extracts are nearly colorless, but the consumer has been educated to believe that the yellow color is an essential quality of a pure extract. In the same way

many people mistrust uncolored butter. The excuse for the use of color in butter is that it permits of a visual distinction between it and oleomargarine. Formerly this was true, but the oleomargarine manufacturer has learned to combine oleo oils of varying colors so skillfully as to simulate perfectly the true butter color; so this excuse is no longer valid. The real purpose of coloring butter is that June butter has naturally a deep yellow color, and this butter for many reasons is the most highly esteemed. The butter manufacturer, therefore, obligingly adds sufficient artificial color to supply his customers with June butter twelve months of the year.

Finally, the use of color gives the dishonest manufacturer an unfair advantage over the manufacturer who sells only pure foods. The falsely trained public looks on these intense colors as a sign of quality, and the manufacturer, even though he may wish to be honest, is almost forced to employ the same practices as his dishonest competitors if he would sell his products. It is true that some of the most expensive food products on the market are artificially colored, and are so colored with no intent to hide inferiority, but to render them more attractive to the eye; even in such cases the practice is a deception and works injustice on the conscientious manufacturer.

What is the consumer's protection against these colored foods? The law requires that artificial color shall be declared on the label and that of the many coal-tar colors only the seven permitted dyes shall be used. This would seem to offer the consumer much protection, but in fact it does not. The consumer, and in some cases the trained chemist, cannot tell what particular color has been used. The consumer cannot tell, even if it be a permitted color, whether it is pure and free from poisonous contamination. The consumer has but one safe course to pursue—to read the label carefully, intelligently, and unremittingly, and, whenever evidence is found that artificial color has been used, to exclude that particular brand from his home. The consumer should remember that these dyes may be injurious to health, that they often conceal inferiority, and that they never add anything to the food value of the product.

Dynamic Effect of Food

A recent report from the Russell Sage Institute of Pathology in Bellevue Hospital shows that 750 calories of dextrose, or 260 calories of protein, increase the heat production of the body twelve percent during a period of three to six hours. In fact, it shows the stimulating effect of protein upon tissue activity to be three times as great as that of sugar. These observations confirm the experience long ago noted by thinking people that meat is a heating food. Under the influence of the stimulating effects of meat the tissues expend in its digestion more energy than they receive from it.

HAY FEVER TREATED BY ORDINANCE

New Orleans Establishes Precedent in Legislating Against Weeds That Produce Disease

Due to the efforts of the American Hay Fever Prevention Association, a new ordinance has been enacted by the city of New Orleans which is expected to mitigate the sufferings of many afflicted people. Hay fever does not play an important part in the annual death rate, but statistics tend to prove in certain sections of the United States that fully 2 percent of the inhabitants are afflicted. The ordinance is brief, but to the point, and, if enforced in the efficient way that only New Orleans goes about such work, the result will be more than satisfactory. The following is a copy of the ordinance:

Section 1. Be it ordained by the Commission Council of the City of New Orleans that:

1. The tenant or occupant of any leased or occupied premises, lot, or other area shall not permit weeds or grass over two feet in height to grow or stand on the premises, lot, or area leased or occupied by him.

2. The owner of any premises, lot or other area not leased or occupied by another person shall not permit weeds or grass over two feet in height to grow or stand on such premises, lot, or other area owned by him.

3. The tenant or occupant of any leased or occupied premises, lot, or other area shall not permit weeds or grass over one foot in height to grow or stand on the sidewalk or banquette abutting the premises, lot, or other area leased or occupied by him.

4. The owner of any premises, lot, or other area not leased or occupied by another person shall not permit weeds or grass over one foot in height to grow or stand on the sidewalk or banquette abutting such premises, lot, or area owned by him.

5. A firm corporation having franchise rights or privileges on the streets shall not permit weeds or grass over one foot in height to grow or stand on any street or area, or any part thereof, which, by the terms of its franchise, it is bound to care for or to keep in good order, condition, or repair.

6. For the purpose of enforcing the provisions of this ordinance, a corporation shall be deemed to be represented by its president, or in his absence by its vice-president, or in the absence of both by the officer or individual in charge of the affairs of the corporation, and such representatives shall be held responsible and punishable for any violation by the corporation of the provisions of this ordinance.

7. Each of the members of a firm shall be held responsible and punishable for any violation by the firm of the provisions of this ordinance.

8. For every violation of any of the provisions of this ordinance, the person responsible shall, on conviction, be punished by a fine of not less than $1, nor more than $25, and, in default of payment of the fine, by imprisonment in the parish prison for not less than ten days nor more than thirty days, or both, in the discretion of the court having jurisdiction.

Section 2. Be it further ordained, etc., that all ordinances and parts of ordinances in conflict with the provisions of this ordinance be and the same are hereby repealed.

The trustees of St. Luke's Hospital, Chicago, have issued an appeal for subscriptions which will enable them to create a building fund of $1,000,000. According to the plan announced, the money will be used to erect a fourteen-story building, with a capacity of 400 patients. The proposed new structure is designed mainly for the accommodation of persons of moderate means who will not accept charity, but cannot afford to pay the rates hospitals are usually compelled to ask of pay patients. A recent report shows that the ordinary income of St. Luke's Hospital for the fiscal year ending September 30, 1915, was $322,353.72. The expenses of operation amounted to $322,560.44. Thirty-nine percent of the patients cared for during this period were admitted free of charge. The institution has an endowment of $425,000, with a separate income of $10,000 a year, and it hopes soon to increase the endowment by $1,000,000.

The MODERN HOSPITAL

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Contributors, subscribers, and readers will find important information on advertising page 34.

Industrial Welfare—A Special Number

The August number of THE MODERN HOSPITAL is to be devoted to the subject of Industrial Health. A vast amount of work has been done by THE MODERN HOSPITAL organization to ascertain what industrial corporations in this country have done, what they are now doing, and what is in their minds to do in the future in the way of health service for their employees.

The great industries have been classified according to the character of work that their employees perform. Literally, hundreds of papers have been generously provided, outlining what the corporations are doing. Welfare directors in these corporations have responded enthusiastically, and they have contributed all that time and their opportunities could afford to develop this great and growing topic so that the corporations can know, not only what others are doing, but what others are thinking about doing; and not only this, but what others have discarded either as unnecessary or undesirable.

The August number will be a very large edition—large in the number of copies printed and large in the size of the volume. Hundreds of corporations will be represented in its text pages, and there will be many illustrations picturing scenes in the welfare departments of corporations.

When THE MODERN HOSPITAL started out to create this special industrial number there was a hope that it might be possible to present some standards to the corporations—some standards of cost, some standards of accomplishment, some standards as to just what in the shape of welfare work was desirable and just what was not desirable, either because of the state of mind of the American employee or because of the state of the various arts and industries. Unfortunately the hope that these standards and these measures of cost might be accomplished is not borne out by the developments of the past few weeks, during which the great mass of information has been in course of collection. We have had possibly a hundred welfare directors, auditors, and accountants, high officers in corporations, figuring conscientiously to determine just what their health service or welfare work was costing them and what it was producing on the other side of the ledger. So far only speculation has resulted, but that speculation is more than worth while. It at least has given us some foci to think from, some points of attack of the problem, and that is the first stage of the solution of any problem.

We hope that the readers of THE MODERN HOSPITAL, health agencies, and the industrial corporations, and the great labor body in this country, will agree that the August issue is a distinct and invaluable contribution to industrial service of the day.

This special industrial number is just the beginning. We intend to prosecute the subject vigorously. We are creating an organization for the special study of this vital problem, and each number hereafter will contain new developments in the story; and if THE MODERN HOSPITAL shall have established a leadership in the study of industrial welfare, if it never did anything else, and if it never does anything else in the future, its creation will have been more than worth while.

An Item in Education

Until very recently hospital administrators have been, of necessity, forced to depend on their own individual efforts and observations and study for their efficiency in their profession. There have been no schools in which hospital management was taught. Opportunities have been greatly limited which would permit those struggling to fit themselves for hospital management to see and know the best in hospital administration. Superintendents were too busy to permit the invasion of their institutions by those who merely came to learn, and too frequently hospital administrators have had neither the ambition nor the capacity to teach what they knew to others.

Things are not quite so bad now as they were, but there is still a dearth of opportunity for the training of hospital administrators. It is not the intention to go into a discussion of the subject of the general training of hospital administrators at this time, but one or two little incidents have occurred very recently to persuade the writer that hospital superintendents and assistant superintendents are overlooking one of their very best opportunities for improving their education and training—viz., the commercial side of hospital administration.

The advertising columns of THE MODERN HOSPITAL are being so carefully scrutinized and so rigidly protected from invasion by unworthy products or the manufacturers of mediocre materials that some of the best of our hospital administrators have expressed themselves as gratified at the opportunity that these columns afford them for broadening their knowledge of hospital commodities.

But not nearly enough study in this direction is being done. Every hospital administrator that pays the subscription price of THE MODERN HOSPITAL owes it to himself to obtain all the information from it that he can, and perhaps the department of THE MODERN HOSPITAL capable of the very highest order of assistance and helpfulness to the hospital people is its advertising columns. Hospital administrators should study these advertising pages just as they are in the habit of studying the text pages. They should weigh the claims of advertisers; they should compare the products advertised, and they should place themselves in touch with advertisers to secure the literature on which advertised products are predicated, and they should study this literature so that, when the time comes when they need to purchase materials or products, they can go about the business intelligently and to the satisfaction of those who are furnishing the money with which their hospitals are conducted.

This is not intended as a stimulus to subscribers to THE MODERN HOSPITAL to purchase supplies, but it is intended very seriously and very urgently to insist that the hospital people shall make better use of the current issues of their journal than most of them have been doing in the past.

Not only that—the commercial people themselves are entitled to something. The writer knows of one advertiser in THE MODERN HOSPITAL who, on almost an absolute gamble, expended a sum exceeding $30,000 to perfect and prepare for marketing a commodity that those in whom he trusted told him was needed in the hospitals. There are many manufacturers and producers catering to the hospital field who are in an exactly similar situation. They spend large sums of money to perfect materials and methods and products for use in hospitals. It is beside the question that they expect to make money out of the market. There are not so many of these people, and yet they form a large class and a class involving the employment of millions of dollars; and, taken altogether, these people are not giving to the hospital field all that they want to give or all that they are capable of giving, and the prime reason, almost the exclusive reason, for that fact is that the hospital people themselves do not take an active interest in the commodities that are being manufactured for their use. It is only the superintendent who wants immediately something advertised who writes to a manufacturer or advertiser about it, whereas, if our people would just look ahead a little bit and see where their own best interests lie, they would keep up a lively correspondence and an interchange of ideas with those engaged in the serious business of producing commodities calculated to advance the interests of the hospitals and consequently further the cause of humanity.

It is to be sincerely hoped that the hospital people will take a livelier interest in the advertising pages of THE MODERN HOSPITAL, and we can safely promise that their efforts in this behalf will vastly improve hospital commodities.

Team-Work

The dominant note in the recent Catholic Hospital Association meeting at Milwaukee was "Team-Work." Readers of papers and those who discussed them presented every conceivable viewpoint under the topic of team-work. The part that should be played by every factor in the institution was brought out; the medical staff in the teamwork, the sisters, the nurses, the interns, the patients, and the public—all of these proved to be integral parts of the team-work in the hospitals. Emphasis was placed on this fact by Dr. Charles H. Mayo in his paper on "The Nature, Value, and Necessity of Team-Work in a Hospital," published elsewhere in this issue. But the real essence of the discussion hinged on the medical staff as the principal factor in team-work. Dr. Edward Evans, of LaCrosse, brought up the topic most forcibly in his paper on "The Medical Staff as a Factor in the Team-Work in the Hospital," and growing out of this discussion of the medical staff's part in the team-work grew another topic—viz., the open versus the closed door hospital, and under this head the discussion grew fast and furious. Members of the medical profession present—Dr. Evans, Dr. Bottomley of Boston, Dr. McGrath of Milwau-

kee, and others—insisted on the "closed door" as a prime necessity if good work was to be done in the hospital. No one seemed to challenge this broad contention, but there was a good deal said about the necessity, if the hospitals of the country were to be kept closed for the use of carefully chosen medical staffs, that those staffs themselves, and the profession as a whole, should grow in grace, should cultivate unselfishness, and it was even suggested that members of the profession who enjoy staff privileges should first pluck the mote out of their own eye so that they could the better see to pluck the mote that was in their brother's eye.

Too much cannot be said of this topic. There is no doubt that the closed staff, in principle, stands for better work in the hospital, because there must be more expressive authority in a closed staff hospital. But there is no doubt also that some extremely bad surgery, some extremely unnecessary surgery, and some extremely hurtful surgery is being done by staff members of hospitals; nor is there any doubt that these staff members enjoy a peculiar freedom from criticism when they perform bad surgery, because it is rare that a hospital board of trustees, or a hospital administrator, or a fellow-member of a hospital staff will have the temerity to stand up and point the finger at a staff member and accuse him of wrongdoing—but it is so easy for the whole staff and for the whole hospital administration to point the finger at what we are pleased to call "an outsider."

It is time for some conscience searching in the medical profession. The American College of Surgeons, the American Medical Association, and the strong special societies are contending for better hospital work, for higher standards in hospitals. We agree with this clamor, we participate in it most heartily, but we believe that the place to begin the improvement is at the top.

Comprehensive Public Health Study

The human being needs looking after by a public health worker from a period about two hundred years before his birth and until he is carefully labeled and filed away with other archives for the use of posterity.

We have not made much progress yet as to how the prenatal study shall be carried out, largely because our ancestors have failed to hand down to us sufficient data on which to base such a study. We know that they have handed down to us in more or less definite form some general conclusions, but these conclusions are based on demonstrable facts rather than on any scientific applications that we have, up to this time, been enabled to make.

Digging deep into the lore of heredity, and following along through the past forty or fifty years the few families that have made themselves especially conspicuous by the great number of imbeciles and defectives to which they have given birth, we have drawn the conclusion that heredity is responsible for most of our inherent weaknesses —physical, mental, and perhaps moral.

The very superficial study that we have been enabled to make from these family histories has shown us conclusively that the health problem is not a problem of today or next year or a decade to come, nor is it a problem of yesterday or last year: but that, in order to achieve really worthy results, we must encompass the whole period of civilized man's existence on this planet and draw on our very limited experience for conclusions as to what the future may have in store. For instance, we know very well that people suffering from an active syphilis, and who have been treated in only a very casual way, have gone out into the pioneer places of the country, and, by reason of fresh air, wholesome food, and physical exercise, have, in the course of two or three or four generations, apparently lived down, or rather thrown off, all the stigma and taint of the disease, and have been given a fresh start as healthy human beings.

Most of us have known people almost hopeless in their moral depravity who, under new environment and in a new atmosphere, have so completely changed in all their relations to society as to make us wonder sometimes whether, after all, heredity has not been too severely blamed and whether environment has not more to do with moral obliquity than the sins of the forefathers. The child of the criminal or the drunkard has the street and the alley for his playground and the coarse, brutalized associates of his father for his companions; criminals and drunkards are his schoolmasters, and his highest ideal of warmth and comfort and plenty is what he sees on his journeys to the back entrance of the nearby saloon.

There is no doubt that, with our greater and growing knowledge of the things needed to maintain and restore health, all the people are arriving at a higher grade of health, and there is no doubt that we are now building up better futures for posterity than our forefathers did.

There comes a time, and that time seems now insistent, when a study of mankind, especially in regard to his health, promises to give greater results than ever before, because the milestones are better marked along the way. These studies of the public health are most valuable. They call for analyses, lead to deductions, and clarify conclusions that are quite as helpful to the human race

as the more scientific methods applied through statistical agencies and in the laboratories. There are pretty well defined stages and pretty comprehensive confines within which these studies can properly go. More of them ought to be made and their sum total would mean very much.

It makes not quite so much difference where we start, but, for convenience, we might begin with the child in embryo and take the pregnant mother. We not only have her present health to conserve in order that she may arrive at the end of her period safely and in good physical and mental condition, so that her child may be born normally, but we oftentimes have to think about some inherited lesion within herself—some taint of a disease that may have come down from her forbears. It is oftentimes possible to treat such a patient under the scientific methods of our time so that the imprint of the disease from which she is suffering will not leave a mark on her offspring.

Then we have the care and guidance of the mother and child in sickness and in health. We must think about prophylaxis to keep both in good physical condition. We must think about the infant's nutrition and growth, so that it may mature along normal lines. Then we have the child at weaning time, and during the teething period, when errors of nutrition are so likely to interfere with its proper development. Then comes the period between the cradle and the school. This is a critical time in the moral life of the child, when impressions are likely to be more lasting than at any other period in its life—when mental defects or idiosyncrasies, or what we may term "peculiarities," are likely to develop. This is a most difficult time of all with the child, because it is wholly subject to home observation and when it is in the care almost exclusively of its own parents, who may or may not be mentally and physically able to live up to the obligations of parenthood.

Then comes the child of school age, when the parents may have some help in their arduous duties, and fortunately we have arrived at a day when the school nurse and the school doctor begin their beneficent interference at least to call the attention of the parents to defects and deficiencies —physical, mental, and moral.

Then we come on the age of puberty, when children have arrived at new responsibilities and when they are traveling in the dark and, to them, uncharted seas. Often children have gone this far in safety, guided by their own comfort and almost by their own inclinations, but no longer do these suffice. There are pitfalls of which they can know nothing, and enemies on every side against which they must be warned and guarded.

And then comes the last stage in child life, early adolescence, and it is unfortunate that, while we are so far in advance of our forefathers in the care of children up to this time, the deadly pace of our age raises many and new dangers in the pathway of the young man and the young woman. No longer are our children permitted only the wholesome occupations of the long ago. The trend toward the city, with the lights and color and diversions, the late hours and irregular meals, and intoxicants of drink and tobacco, and the dance, all raise up barriers, and lucky is the young person of today who can pass these in safety.

Then we begin a new study, the study of the adult—of his or her occupations, pastimes, recreations, educational processes after the teacher's influence has passed. We come to employment, the choosing of a vocation. Where children have grown to this period normally and without mishap, the selection of occupation is not so difficult. But, under the pressure of present-day competition, many young people find it increasingly hard to hold the pace—to keep up with their fellows and to succeed on their own responsibility. It is at the beginning of this period when many deficients and defectives first weed themselves out from the normal groups and take their places among the unemployed, the shiftless, and the incapable, and our chief study at this point is to determine what shall be done with this great helpless class, handicapped as they are in the warfare of life. We must help them choose occupations that their mentality can master, and there must often be many changes before many of these people can find themselves in the social order. And it is this class, the irresponsibles and the occupational misfits, that form the last class of all—the dependent aged.

It will be found an interesting study to those who are inclined to study themselves and their fellows to follow the ramifications of these several stages of man into the highways and the byways of society; it will be interesting merely as a form of occupation to study "the seven ages of man," but for those of us who have accepted a stewardship as "our brother's keeper" it is very highly essential that we make better progress than the past has made in arriving at conclusions that will help society and its individual members. We read our history of the witchcraft days, burnings at the stake, and all the rest of it, with an attitude of incredulity, and with a sure sense of superiority; we are horrified over the days of medieval Bedlam and even of the insane asylums of our own time, but we participate with equanimity in the making of laws for the confinement and punishment of people far less morally culpable than our old friend Tom o' Bedlam and others of his ilk.

HOSPITAL, MEDICAL, AND SPECIAL MEETINGS

American Hospital Association Gets Ready

Since our last number Dr. Winford Smith has definitely completed the program for the American Hospital Association convention at Philadelphia. Nearly all of those who have been assigned parts in the proceedings of the convention have gone to work determined to outline something that shall be of lasting value to the hospital world. More than half of the papers to be read at the convention have already been started and many of them completed.

Dr. Smith and his board of trustees are sufficiently in touch with the field to have been able to announce that without doubt the Philadelphia meeting is to be one of the largest and most successful that the association has ever had.

Dr. William H. Walsh, chairman of the committee on arrangements, has succeeded in getting up a splendid commercial exhibit, and has made a program of entertainment that will be most attractive. This program is to be published in the next number of THE MODERN HOSPITAL.

The transportation committee is now investigating the proposition to run special trains from different sections of the country—one down from New England to Philadelphia, one from the Pacific coast through the northwest by way of Chicago to Philadelphia, taking in the coast cities, Spokane, Denver, Minneapolis, St. Paul, Omaha, Des Moines, Milwaukee to Chicago, and thence by way of Cleveland, picking up en route attendants from the neighborhood of Detroit, and others from the neighborhood of St. Louis and Cincinnati and nearby points. The committee is thinking about another special train service to be run from the great southwest, beginning with Texas and taking in the tier of southern and southeastern states, up the Atlantic coast. Already there has been much inquiry about these special trains, and without doubt many attendants at the convention will take advantage of their opportunities for making the trip to the convention a social outing.

Definite arrangements have been made for the convention to be held in the Bellevue-Stratford Hotel, one of the largest hotels in the country, and certainly the best hotel in Philadelphia. The entire roof garden, with an area of nearly a block, has been engaged for the convention, and there is to be sufficient room for several meeting halls, including one that will hold the whole membership of the association, and other halls for large committees and special sessions. There will also be room on this roof garden for the commercial exhibit, and the architectural arrangements are such that exhibitors will have an abundant assurance that those who attend the convention will see the exhibits. Since Dr. Smith's regular program has been perfected, Miss Nettie B. Jordan, vice-president of the association, and assigned by Dr. Smith to conduct two sessions for small hospitals, has also completed her program and it follows herewith. This program has been given an immense amount of careful consideration, and has been approved by Dr. Smith and the officers of the association, and it is anticipated that these two meetings of which Miss Jordan will have charge will be among the most attractive features of the convention.

SMALL HOSPITAL SECTION

First Session

Symposium—"The Creation and Management of a Small Community Hospital."

1. "The Survey of the Community and the Preliminary Work in Establishing a New Hospital." Dr. W. T. Graham, University Hospital, Ames, Iowa. Discussion—E. E. Munger, Spencer, Iowa.

2. "Duties of the Hospital Trustees in the Physical Management of a Community Hospital." Edward Lathrop, attorney and president of the board of trustees, Rockford Hospital, Rockford, Ill. Discussion—F. E. Chapman, superintendent Mt. Sinai Hospital, Cleveland, Ohio.

3. "Financing the Small Community Hospital." Ida Barrett, superintendent Blodgett Memorial Hospital, Grand Rapids, Mich. Discussion—Lucia Jayquith, superintendent Children's Hospital, Worcester, Mass.

4. "Building and Equipment of the First Unit of a Small Hospital." Minnie Goodnow, Boston, Mass. Discussion—Margaret Robinson, superintendent Jefferson County Hospital, Fairfield, Iowa.

Second Session

1. "How May a Hospital Superintendent Promote More Scientific Work in a Small Hospital." Mary Riddle, superintendent Newton Hospital, Newton Lower Falls, Mass. Discussion—Emma Anderson, New England Baptist Hospital, Boston, Mass.

2. "How Are the Superintendents of Small Hospitals to be Trained and Educated?" Adelaide Nutting, Teachers' College, Columbia University, New York City; Dr. Frederic A. Washburn, superintendent Massachusetts General Hospital, Boston, Mass. Discussion—H. E. Bishop, superintendent Robert Packard Hospital, Sayre, Pa.

3. "How Can the Scientific Services be Standardized in the Small Hospital?" Dr. O. L. Pelton, president Kane County Medical Society, Elgin, Ill. Discussion—Joseph Purvis, Western Suburban Hospital, Oak Park, Ill.

Round Table—Vital Problems of the Small Hospital. Discussion—Katherine Prindiville, superintendent Lawrence Hospital, New London, Conn.; Martha Oakes, St. Luke's Hospital, Davenport, Iowa; Mrs. Oca Cushman, Children's Hospital, Denver, Col.; Margaret Rogers, superintendent Jewish Hospital, St. Louis, Mo.

Hospital Section Had No Program

A large number of physicians and hospital people were greatly disappointed this year when it was announced that there would be no program of the Hospital Section of the American Medical Association at the Detroit meeting.

The executive committee—Dr. L. W. Littig, of Davenport, chairman, and Dr. John A. Hornsby, editor of THE MODERN HOSPITAL, secretary—were themselves greatly disappointed, but after a thorough canvass of the situation it was found that it would be extremely difficult to get up a program of which the section could feel proud.

At the Minneapolis meeting, two years ago, the house of delegates of the association passed a rule that members could read papers in only one section, and, since nearly all members of the association who attend the conventions are interested in some clinical section, and if they could not participate in the program of two sections, they naturally preferred their own. The result was that out of a large number of prominent people asked to read papers in the hospital section, only three were found available, since all of the others were tied up in clinical sections.

Another reason why the Hospital Section's program could not be effectively carried out this year was that the scientific assembly of the association has become so important that the sections and their work must be subordinated in a certain degree to the successful carrying out of the scientific assembly programs. This would make

it impossible to hold more than one or two sessions, especially in the smaller sections.

It is sincerely to be hoped that by next year the house of delegates and the trustees of the association will have created conditions under which the Hospital Section can assume the work which it so successfully instituted five years ago and which it has so successfully prosecuted ever since. It is very certain that the Hospital Section has brought the members of the American Medical Association a great fund of information of value concerning hospital activities. Heretofore members of the medical profession had almost confined their attention to their own medical affairs in their hospitals, but by the efforts of the Hospital Section it has been brought to the members of the profession that their medical interests in the hospital could be served only by high standards in the administration of the affairs of the institutions, and hence members of the profession were vitally interested, not only in medical problems in hospitals, but in the administrative problems as well. The result has been that staff members in the hospitals all over this country have been studying the problems of their institutions, and their advice has grown to be invaluable and constructive.

The Ohio Hospital Association Meeting

BY GEORGE V. SHERIDAN, Columbus, Ohio,
Executive Secretary of the Ohio State Medical Association and manager of its journal.

The annual meeting of the Ohio Hospital Association, held in Cincinnati May 24 to 26 at the Hotel Gibson, too late for the June issue of THE MODERN HOSPITAL, demonstrated that there is a splendid field in Ohio for an organization that will deal with the important problems of hospital administration.

Nurse training, the operation of the workmen's compensation law, the probable effect of sickness insurance on our hospitals, and the care of charity cases were among the more important topics thoroughly discussed. Representatives were present from a large majority of the hospitals of the state. One unusual feature of the convention was the large attendance of sisters from the Catholic orders, their presence indicating the interest of these orders in the solution of hospital problems.

Credit for the success of the meeting and the indicated success of the association is due largely to the persistent work of officers, and particularly to Mr. Howell Wright, of Cleveland, secretary of the association. Since the organization meeting a year ago there has been a constant effort to bring into the organization representatives of every hospital in the state.

Another interesting feature of the meeting was the commercial and scientific exhibit. Many large manufacturers of hospital supplies and equipment were represented, and several of the large hospitals presented exhibits showing special methods developed in the different lines of work.

Considerable criticism was directed against the Industrial Commission for its method of dealing with hospitals under the workmen's compensation act. The attack was led by Dr. W. S. Hoy, of Wellston, representative from Jackson county, who announced that if he is reelected to the Legislature he plans to introduce legislation designed to correct some of the present abuses. He was answered in person by Dr. William H. White, chief medical examiner for the commission. At the conclusion of a rather extended debate the association adopted a resolution authorizing the appointment of a committee of three members to study the operation of the law as regards its effect on hospitals and the sick in hospitals, and report at the next annual meeting. It directs that this committee shall cooperate with a similar committee which was appointed two years ago by the State Medical Association.

REV. A. G. LOHMANN,
NEWLY ELECTED PRESIDENT OHIO HOSPITAL ASSOCIATION.
Superintendent German Deaconess Hospital, Cincinnati.

Criticism of the Industrial Commission was directed chiefly against the arbitrary cutting of bills. In the discussion it was brought out that many hospitals are refusing to take Industrial Commission cases unless the employer personally guarantees the full amount of the charges, regardless of action by the commission.

HOWELL WRIGHT.
REELECTED SECRETARY-TREASURER OHIO HOSPITAL ASSOCIATION.
Secretary Hospital Council, Cleveland.

Members attending the meeting of the Ohio Hospital Association, Cincinnati, May 24-26, 1916.

Hospital executives objected to the allowance by the commission of $28 for special nurses, pointing out that this allows but $3 a week for board, which costs the hospital $7. Several emphasized the fact that the commission's so-called economy in restricting the number of dressings is largely responsible for the high rate of infection attending commission cases. If the commission would permit more frequent dressings, infection in many instances would be avoided. The legal limitation of $200 operates harshly against hospitals. It was pointed out that this hardship is particularly noticeable in corrective operations in cases where the $200 was used in the preliminary treatment, and where corrective work is necessary later in order to save the patient from permanent disability. Another abuse which operates against the hospital is the failure of the commission to promptly certify as to whether the patient is entitled to state care. Several executives reported that after patients had left the hospital the commission reported that they were not entitled to compensation, and the hospital, of course, holds the bag.

Dr. White, in meeting the various criticisms, called attention to the tremendous increase in the volume of business handled by the commission. With a decidedly limited medical staff, they are passing on about 500 cases daily and mistakes necessarily occur. He outlined several innovations which have been made, and promised more satisfactory administration of the department in the future.

He agreed that the $200 limit should be modified, pointing out that, if the state had more money to spend for corrective work, many thousands of dollars could be saved through a reduction in disability costs.

It is hoped to bring about a more satisfactory administration of the hospital, as well as the medical practice features of the law, through the committees now representing the hospital and the medical associations.

NURSE TRAINING

The friction that has developed between the large and small hospitals of the state over the subject of nurse training brought about by the operation of the new nurse registration law was rather marked at the convention. After a rather acrimonious debate of the proposition, the convention adopted the following resolution:

That the question of the regulation of the State Medical Board concerning the minimum number of patients, per daily average, be referred to a special committee, to be reported on at the next annual meeting of the Ohio Hospital Association.

This action was not satisfactory to a number of the members of the association representing the smaller hospitals. Headed by Dr. Hoy and Drs. Cherrington, of Logan, and Dr. Pool, of Port Clinton, a number of these announced their withdrawal from the association and the organization of a rival group. They further announced that they had incorporated under the name of the Ohio Hospital Association, an action that may develop a legal contest regarding the right to use this title.

A very interesting evening session was devoted to the subject of state sickness insurance and its probable effect on hospital administration in Ohio, led by Dr. E. R. Hayhurst, of the state health department. Dr. Hayhurst believes that sickness insurance will greatly increase the number of hospital cases—that the sick will be treated in hospitals, and that ambulatory cases will be cared for in dispensaries, and that treatment of the sick in the home will be greatly decreased. He figures that the entire cost will total only about 3 percent of the total now paid for wages. He advised hospital executives to consider the matter carefully because of the probable legislative consideration of the question in Ohio. Dr. Hayhurst strongly believes that socialization of medical service is coming, and that it will provide better service at a decreased cost.

Dr. A. C. Bachmeyer, superintendent of the Cincinnati General Hospital, declared that sickness insurance is sure to come, and that doctors in hospitals must be prepared to meet it. Dr. C. L. Bonifield rather doubted the feasibility of such insurance, pointing out the fundamental differences between conditions in this country and in Europe. Dr. H. K. Dunham agreed with Dr. Bachmeyer, however, and urged medical men to do everything possible to aid in the movement, pointing out that the development of the system would be a tremendous aid to public health work, and is practically the solution of the tuberculosis problem. He declared that, from a medical practice standpoint, it has been successful in every way in England, and that prior to the war the average income of the English physician had been materially increased by its operation.

The extent of the community's obligation for the care of indigent sick and injured was cleverly presented by Mr. Fred. S. Bunn, superintendent of Youngstown City Hospital, and by Father M. F. Griffin, of St. Elizabeth's Hospital, Youngstown. They detailed their varied experience in dealing with the city's indigent over a long period of years, which led up to the present satisfactory plan under which the city pays the hospital $1.75 per day per patient.

Dr. C. G. Souder, of Toledo, superintendent of Lucas

County Hospital, explained the methods by which the anti-tuberculosis hospital propaganda has been developed in Ohio, and detailed in an interesting manner the entire field of tuberculosis sanatoriums.

Dr. Christian R. Holmes, chairman of the Cincinnati Hospital Commission, and Dr. Charles F. Hoover, professor of clinical medicine at Western Reserve University School of Medicine, were the speakers at the annual banquet of the association. Dr. Holmes dealt chiefly with the problems of medical education and nurse training, and advocated the elimination of commercialism from the latter as well as from the former. Dr. Hoover took as his theme the proposition that a hospital must be more than a mere place to treat the sick, and gave interesting points relative to hospital management.

The following officers were elected for the following year: president, Rev. A. G. Lohmann, superintendent of the German Deaconess Hospital, Cincinnati; first vice-president, David Workum, Cincinnati; second vice-president, Miss M. A. Lawson, Akron; third vice-president, Miss Mary E. Jamieson, Columbus; secretary-treasurer, Howell Wright, Cleveland. The executive committee is composed of Fred. S. Bunn, Youngstown, chairman; Rev. C. H. LeBlond, Cleveland; Dr. E. R. Crew, Dayton; Miss Mary M. Roberts and Dr. A. C. Bachmeyer, Cincinnati.

Catholic Hospital Association Meeting

More than 300 sisters, in charge of Catholic hospitals, representing every section of the country from Maine to California and from Winnipeg to the gulf, a large number of physicians representing medical staffs in Catholic hospitals, many chaplains in these hospitals, and a miscellaneous number of trained hospital workers holding positions in Catholic hospitals, met in Milwaukee on the morning of June 7 to attend the second annual convention of the Catholic Hospital Association.

The Rt. Rev. Archbishop Messmer, of Milwaukee, celebrated high mass to inaugurate the three days' meeting, and the convention was called to order by the President, Rev. Charles B. Moulinier, of Marquette University Medical School, who delivered a notable address, which is published elsewhere in this issue.

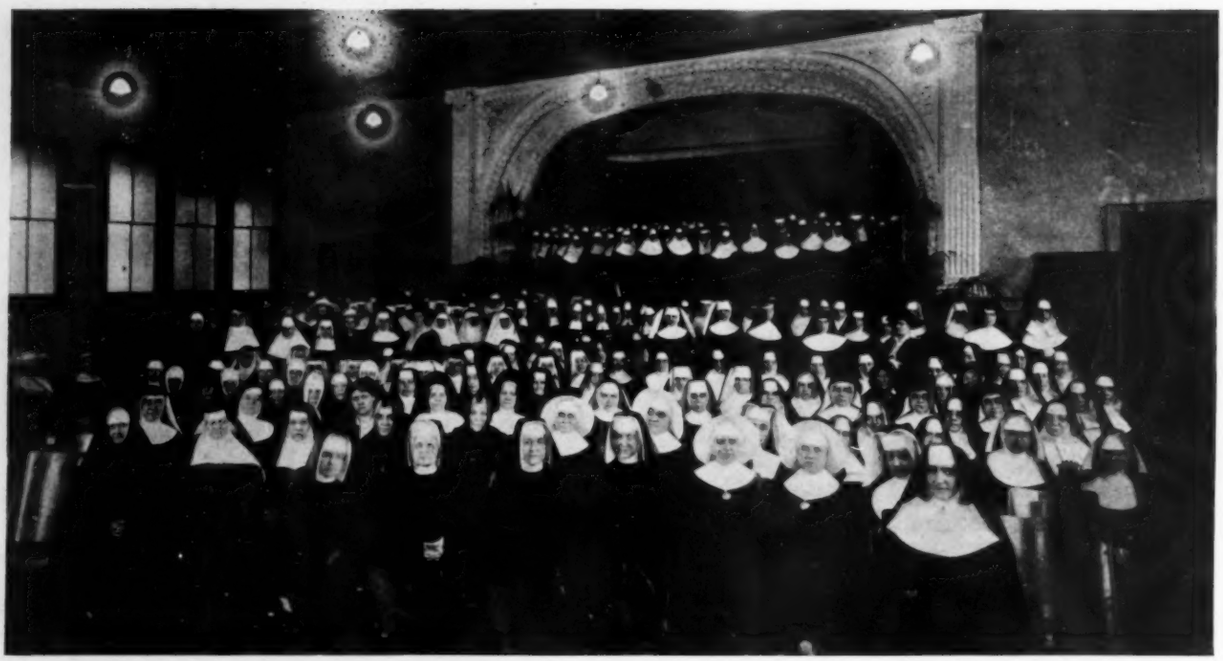
The six sessions of the convention were remarkable for the enthusiasm and interest displayed by those in attendance, and, what is even more remarkable, a new precedent was set in hospital councils in this country by the active participation of some of the sisters themselves, one of whom, Mother M. Esperance, of St. Mary's Hospital, Minneapolis, wrote and read one of the best papers delivered at the meeting.

The whole meeting was practically given over to the discussion of the one topic, "Team-Work," and the lights and shadows of team-work were shown in every variation. Dr. Charles H. Mayo, who since the meeting has been elected president of the American Medical Association, led off with a discussion of "the value and necessity of team-work," and thereafter the subject was taken up in every phase—team-work on the part of the medical staff, the intern as a factor in team-work, the sisters as team-workers, the public and the patient and their part in the team-work.

Last year, when the Catholic Hospital Association met, the capacity of Milwaukee as an entertainer was taxed to the utmost to provide accommodation for the 125 sisters who were present, and it was greatly feared, almost to the time of this present meeting, that arrangements would be impossible by which the sisters could be accommodated during the three days' meeting; but as a great blessing came an offer from the new St. Catherine's Hospital, just completed and being furnished, to accommodate the sisters with sleeping and eating quarters, and more than 200 sisters were domiciled there; the others were scattered around the city in different Catholic hospitals and similar institutions.

REV. CHARLES B. MOULINIER, S. J.,
PRESIDENT OF THE CATHOLIC HOSPITAL ASSOCIATION.
Regent of Marquette University Medical School, Milwaukee.

BERNARD FRANCIS McGRATH, A. B., M. D.,
Secretary of the Catholic Hospital Association, 1916-17.



Sisters attending the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

There is a good deal of talk among the new officers of the association of having the meeting a year hence in Chicago, and undoubtedly the executive committee has to take early action to see whether proper housing and meeting accommodations can be had in Chicago for the purpose.

Immediately following the Milwaukee meeting a large number of the sisters made arrangements for a stay in Milwaukee of a month or six weeks, during which time Marquette University Medical School is to give courses in the various scientific departments of hospital work. The subjects of pathology, including bacteriology, serology, and tissue pathology, will be taught to an extent that will serve the nursing purposes of the sisters; the x-ray and its many variations will be taught, also dietetics, principles of administration, bookkeeping and accounting, domestic management, the purchasing and distribution and use of supplies. Father Moulinier was fortunate in securing a considerable appropriation from a large educational foundation, and with this generous contribution he was able to secure the services of a number of trained people to participate in the teaching in this six weeks' course.

Some of the members of the association were greatly surprised when, on the reading of the report of the treasurer, Sister Marie, of Misericordia Hospital, Milwaukee, they learned that the association already has a fund of approximately $1,000 with which to meet its obligations and to expand in its usefulness. The prediction, moreover, was freely made that before another year had gone round the association would include in its membership nearly all of the 500 Catholic hospitals in this country.

Although not publicly announced, it may be stated that it is the intention of the president, Father Moulinier, to devote the next year's session to a discussion of the principles of standardization, and it is the expressed intention of Father Moulinier to assign various subheads under this topic to members of the association long in advance of the meeting, so that they may be enabled to give some intensive study to it, and so that they may be enabled to come to the meeting with some clearly defined notions and proposals in the matter of the standardization of various classes of hospitals.

There was a very grave question during the whole meeting as to who should be its next president. Last year Father Moulinier, very much against his inclinations, accepted the presidency because it was urged on him that, as he had instituted the association and had done all of the details, and had worked out all of the ideals concerned in its creation, it was necessary for its successful launching that he should accept the presidency. Father Moulinier's health has not been of the best during the past year, and, added to his other work, the details of administration of the association's affairs have been a great care and drain upon him; and, while there was an inclination to release him from further duty in the actual work of the association, it was also felt that the association was not yet old enough and had not had experience enough to go along under new leadership, and Father Moulinier was again drafted as the president for the coming year.

Other officers of the association are Mother Joseph, superintendent of St. Mary's Hospital, Rochester, Minn., first vice-president; Mother M. Esperance, St. Mary's Hospital, Minneapolis, second vice-president; Dr. B. F. McGrath, Marquette University Medical School, Milwaukee, secretary; Sister Mary Rita, St. Joseph's Hospital, Milwaukee, treasurer; Dr. J. T. Bottomley, Boston, and Sister M. Regina, Mercy Hospital, Wilkes-Barre, Pa., the two members of the executive committee.

Address of the President of the Catholic Hospital Association[1]

REV. CHARLES B. MOULINIER

While the major part of the human race today is actually engaged in the destruction of human life, we are gathered here in earnest and conscientious deliberation on the

[1]Delivered at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

problem of conserving human life. The entire mind of practically all the peoples of earth, with its main energies of thought, invention, and administration, is taken up with the awful purpose of bringing ruin and chaos to the lives, property, and social fabric of their fellowman. The laws of physics, mechanics, and chemistry are being used with all the acuteness and skill of the most accomplished expert to kill human beings, to destroy the property of others, and to overturn the great structures of art, industry, finance, and government that have been the pride and boast of our modern civilization. The laws of God, of ethical righteousness, and common human justice are being violated to a degree never before equaled in the history of the human race.

We are in the midst of a cataclysmic upheaval in all the fundamental elements of our human life. New valuations of the things that enter into life must necessarily grow out of the chaos and crime of these epoch-making times. Out of national and individual pride and greed there is apt to grow a more restrained and balanced sense of national and individual honor and right to property; out of a grossly materialistic and utilitarian philosophy of life values we may confidently look for a strengthening of the spiritualistic truths and fixed ethical standards of a sound and safe morality; out of a godless Machiavellian diplomacy, out of a widespread apostacy from God, of nations and of individuals, we may, I believe, look for a return of greater reverence for God and his laws on the part of individuals and peoples; out of the confusion and catastrophe of racial hatred there will gradually emerge a new and strong racial brotherhood; out of a selfish and tyrannic rule of dynasty, oligarchy, and plutocracy, there must come a broader, saner, and more saving rule of an ever-growing and chastened democracy; and finally be it said, with all the emphasis and unrestrained praise of which words are capable, in the midst of and out of the mad fury of human carnage now deluging the earth with fratricidal blood, there looms up with all the glory of the new Jerusalem the brave, modest, unselfish, and highly trained service of doctor, nurse, and priest in unremitting toil to save body and soul from suffering and sorrow and death, if it may be, for a healthy and a useful life for God, for race, for nation, for family, and for self. The world stands in salute of honor and praise to the brave, self-sacrificing men and women of the triple profession of world-wide, peaceful, life-saving service.

Ladies and gentlemen, what is going on in Europe today is simply an extreme crisis of conditions which brings into relief and perspective the basic elements of the race-wide problem of the conservation of human life. In peace or in war, the problem is essentially the same in its deeper aspects, though vastly different in many major and minor matters of administration.

This Catholic Hospital Association was organized for the purpose of studying the problem of the conservation of human life and working out the best solution of this matter from the side of efficient hospital service. I shall, therefore, state the problem as I see it, setting forth the factors that go into the problem and then try to work out the solution.

1. The problem of the conservation of human life is as large, as clear or obscure, as simple and as bafflingly complex, as is the problem of individual and social health or sickness. It we all were born, if we all lived, and if we all died in good health, normally, by simply ceasing to functuate physiologically, without wear or tear or deterioration of tissues and organs, there would be no health problem, there would be no medical profession, no nurses, and the clergy would have a much more easy and comfortable time than they are even now reputed to have. The stern facts of life are, however, far otherwise—we are born in travail, we live in travail, and we die in travail. We are born in trouble, we live in trouble, and we die in trouble. This poor, human flesh of ours is heir to a thousand ills whose prevention, alleviation, and cure form the object of that large and ever-growing group of sciences called medicine. As the centuries have melted into the past, the mind of man has searched with ever-growing curiosity into the secrets of nature's processes. Out of this patient, serious, and devoted search after the truth, as embodied in the workings of the physical universe, there have grown the sciences of physics, mechanics, chemistry, and the great, complex science of biology. Medicine is nothing more than the application of these sciences for the prevention, alleviation, and cure of disease in man. In a very true sense this complex of the sciences called "the healing art of medicine" is in its infancy, but it has so large a growth and so complex an organization already, even in its youth, that it has already become the most exacting science in the whole curriculum of education. This growing reach and complexity of medicine is due to the simple fact that man, in his bodily and mental makeup, in his ever-growing and widening interests in life, in his forward march into the intricacies of an ever-spreading civilization, finds himself, at every turn, called on to face the physical, mechanical, chemical, and biological risks incident to the social, industrial, political, and strongly complex economic life of today. It is to conserve human life in the midst of such an environment that the doctor, the nurse, and the clergyman are engaged in a triple alliance, offensive and defensive, for the preservation of the human race.

2. The facts entering into this problem are many, varied, and of strangely interlacing cooperation. We are all sworn, vowed, pledged, to the saving of the patient, and we, each of us, all of us, the whole world, the whole race, is the patient. And yet we must divide ourselves off as factors in the problem into the patient, the medical profession, the nursing profession, both within and without the hospital; the State as responsible protector, financial assistant, and legal, just regulator; and the Church as the source of inspiration, the patron, and moral and religious guide and collaborator. All these factors enter into the problem of the saving of human lives, and now, with the problem and the factors before us, how is the solution to be worked out?

3. The solution will come from a deep and broad education in the things of human health on the part of the patient, of profession, of nurses, of the State, and of the Church. This hospital convention gave its attention last year to the subject of education in the care of the sick, and this year is devoting its whole program to a consideration of another element that will bring about a solution of the problem—viz., cooperation. "Team-work" is the familiar phrase we have chosen to apply to the essential thought of this year's program, a lofty and unselfish working together on the part of the patient, nurse, doctor, and all others concerned.

At this point I wish to emphasize a few considerations which seem to me vital in securing the team-work which is necessary to bring about the best results for the patient. I put down as a fundamental postulate of what I am going to say that every patient today who is able, either by his own efforts or the efforts of others, to receive the institutional treatment of a hospital, has a moral and social right to the most scientific and efficient service

that the medical knowledge and skill of today is able to furnish. If this postulate be admitted, then it follows as a necessary conclusion that every hospital which claims to be doing the work of up-to-date medical treatment must be prepared in every respect to furnish such treatment. This means an educated and skillful staff of doctors, an educated and skillful corps of nurses, an educated and skillful administrative board, an enlightened public, and a wise governmental regulation.

With all these things secured in the hospital, the patient must then become the patient of the staff of the hospital, of the whole institution, and not of the particular doctor or the individual firm of doctors. The patient must be the beneficiary of all the knowledge of all the workers in the hospital, from the highest to the lowest. The theme we are to consider in our present meeting will bring clearly and forcefully, and from every point of view, this thought to the minds of all here gathered. All small impulses, every selfish interest, each ignoble aim, whether on the part of staff or nursing corps, or whether on the part of the administrative officers, must give way to a lofty and unselfish spirit of cooperation; otherwise, the patient will not be getting from the hospital what he is morally entitled to—the best that present-day medicine can give by way of medical service.

I know that such an ideal result is difficult of attainment. There are comparatively few hospitals in this country which have a closed staff of doctors carefully organized. There are perhaps no hospitals in this country where the patients go as patients of the hospital, and not of the particular doctor who sends them there, and so there are very few hospitals in which the patient receives that careful group diagnosis and cooperative treatment to which he is entitled from the medical profession of today.

In this day of ever-broadening and deepening social and industrial complexities there are few, if any, hospitals which give time and care and skill to bring about the far-reaching beneficent influences of social medical service. And now I ask flatly, why are there so many deficiencies in the service that is rendered to patients in the hospitals of our country today? My answer is, that all concerned in the service do not know all they should about it; in the second place, they are too selfish and low-motived to cooperate sincerely and consistently; in the third place, the public does not know, appreciate, and give sufficient financial support to hospitals to enable them to give this fine, perfect service; and, finally, the patient himself does not lend himself, with wise and considerate patience, to the slow at times, cautious always, and ever scientific treatment which the advanced knowledge of today is capable of giving him.

In a word, there is want of proper cooperation from every quarter in the working out of this greatest problem, of this problem of our civilization—the conservation of human life. There is not enough cooperation from all concerned in the matter of knowledge, in the matter of unselfish purpose, in the matter of financial aid, in the matter of wise administration. We must know more, we must become less selfish, we must become more generous, and we must be wiser than we are—all of us, patient, public, doctor, nurse, and institutional heads. It is the purpose of this gathering to get some of this knowledge, to elevate some of our motives, to convince those who have that they should be generous, and to make it clear to all that cooperation is the one great social virtue which we all need for the true solution of the problem of conserving human life.

What the Physician Should Contribute to the Team-Work[1]

BY E. EVANS, M. D., La Crosse, Wis.

In spite of the fact that I may say some things that will be better said by others during the course of this meeting, I want to introduce my remarks on what the doctor can do for "team-work" by saying something about hospitals and especially about the so-called "open hospital," which most of the sisters' hospitals are.

I think it is quite fair to say that there are two inexcusably vicious institutions in the United States today—(a) the county jail, the educator of criminals, and (b) the open hospital, the shielder of criminals. No one, I think, will dispute this charge against the county jail. That the open hospital is potentially, if not actually, a menace can, I think, on many grounds be proved. It too often shields work done so improperly or so imperfectly as to be open to the charge of being so far from what it should be that we are not stretching language very much if we call it criminal. This, of course, is not true of all "open hospitals." Nor do I think it is true of most of the men working in "open hospitals;" but because of the wrong conception of what a hospital is, because of the attitude of the administration of so many hospitals who feel that the hospital must be filled at all costs, and that the success of a hospital is measured, not by the character of the work done, but rather by the amount done, much poor work and much unnecessary operating is condoned. Many men with improper training, incapable of doing medical, let alone surgical or other specialized work, are allowed all the privileges of the hospital without any supervision. Properly conducted, every hospital should be a great factor in the community for social uplift, a center from which should radiate knowledge and health and physical education. It should be an ideal, a big idea, not four walls—merely a boarding house for the sick. A hospital is not only a place for the performance of brilliant operations and the feeding and nursing of sick people. In fact, I think it is well to look on these duties as in a measure incidental, valuable, of course, in conserving and preserving life, but, aside from these duties, the greatest function of a hospital and its chief excuse for existence is that, while doing these things for the sick and in the very best way, we are acquiring new knowledge, finding better means for investigation of disease, and discovering better modes of treatment, whether surgical or medical.

A hospital answering such a conception as this must have scientific equipment and men on the staff sufficiently expert to use the same. It must have well-trained, highly educated nurses devoted to the scientific pursuit of their calling, and it must have a management that has a keener eye to the scientific care of the sick and the preservation of the health of the well than it has to the acquisition of the pocketbooks of the sick. In such a hospital, with a staff of medical attendants with high ideals and careful scientific training, have the staff or a committee of them hold frequent frank conferences with a committee of the administration at stated intervals—say, quarterly; let this staff (every one of them) hold frequent conferences with each other to discuss and diagnose the cases under treatment in the hospital, and we would approach an ideal hospital, where there would be no question as to there being well-equipped laboratories and well-selected libraries, where interns will be alert and contented (not so usual an occurrence now), and where—what, after all, is the central problem—the patient is not maltreated.

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

I wonder how many hospitals in the state of Wisconsin or in the United States having less than 50 or even 100 beds, conducted by the sisterhoods, have a well equipped laboratory, where the scientific investigation of cases may be carried on. How many of those hospitals have a library where the interns may find works of reference and standard text-books, as well as current magazines, for the purpose of looking up literature on the cases coming under their observation? It will be very interesting, indeed, to note how many hospitals, under the inspection to be made by the American College of Surgeons, will come in class "A."

Again, what about hospital bookkeeping? Can you imagine a department store or any business conducted without a proper system of bookkeeping! The merchant must not only know what he pays for his goods, including cost of having them laid down on his shelves, but he must also know what it costs to retail them before he can estimate his profits. Then, if he is a wise, successful business man, he must know how those goods please, how they wear, how they fit, etc., and he must have a careful record of all this so that he may know how best to make future purchases. How about hospital records, my dear Sisters Superior, in the hospitals over which you preside? Have you the merest essentials beyond the name, address, and whether the patient's bill is paid, for every patient who has entered your hospital, say, during the past ten years? Too often, I am sure, proper, complete histories (which Murphy truly says comprise more than 75 percent of diagnoses) are seldom to be found. Classification, cross-indexing, and follow-up records are, I am sure, most often unheard of. I believe when this inspection and standardization of hospitals is made that you will find much more stress laid on the hospital library, the hospital laboratory, and the uses made of them, and the properly kept records of the hospital, than you will on splendid buildings, excellent furniture, and showy reception rooms.

The concrete hospital problem resolves itself into (a) administration, (b) staff, (c) patients, especially the great so-called middle class (for the rich and poor are more fortunate than those), (d) the public at large (for social and economic reasons). Of these four divisions, "c," the patient, is by far the most important part of the problem. Next to "c," "d" is the most important; "a" and "b" exist only for the service of "c" and "d," and there is no justification for their being, except proper service to these. I believe there is needed a complete change in the administrative conception of what a hospital is and should be. We have heard much of the "surgical conscience." In future we must in hospital work insist on hearing more about the "administrative conscience." I know that when a religious order has invested a great sum of money, as so many of you have done, you necessarily feel great anxiety as to the success of the undertaking. You feel, and justly, that it is necessary to make your hospital an economic success. Then, too, you are the buffer between contending doctors and cliques of doctors, and, good and religious as you are, you feel that, following the behest of your Savior, it is best to have "peace at any price." When you get in this frame of mind and are afraid to do the right thing—feel a little bit fearful of refusing the advantages of your hospital to this or that improperly trained internist or surgeon, for fear of the prestige that he may be able to carry away from your doors—just remember that "peace at any price" was not the greatest lesson taught by our Savior. Above everything else and before everything else, Christ placed "righteousness at any cost."

Next to the patient, the most important factor in the hospital problem is the public. The community in which a hospital is located has the right to demand, because of the social and economic problems involved, a high standard of service. They have the right to know that citizens of their community entering there shall get the very best service possible. To get other is to throw back on the community a burden just as real, and often just as serious, as is the burden of the criminal, who, after his first minor offense, has been trained and educated in the county jail. I feel that very soon every hospital worthy of the name in all cities with a population greater than 25,000 (and perhaps much smaller) should have not only a free dispensary, but a continuous social nurse service. I feel sure that the time is not far distant when the sisters themselves engaged in hospital work will find that their best service will be done, not in the wards of their hospitals, but in the homes of their convalescing patients.

With a hospital based on ideals such as I have endeavored to outline, it should be easy to have ideal doctors contributing their quota to the "team-work." It perhaps would be far easier to draw a portrait of the ideal doctor than to always secure him for such hospital service. In the first place, the ideal doctor should be a man of broad education, one whose preliminary training in the basic sciences on which medicine rests has been so thorough that he can grasp, in good measure, the complicated science of medicine. His medical training should have been secured in one of the better medical schools, or he should be such a student and so devoted to his profession that, if trained in one of the poorer schools, he has been able to overcome his disadvantages by hard study, close application, and frequent post-graduate courses. He should be a man with not only a high moral sense of duty, but with a well-trained and well-developed social conscience. His interests must not be only in the hospital, but in the community of which the hospital forms a health center. His other qualities should be dominated by good common sense. To be a power in the hospital, a factor in "team-work," he must be capable of working harmoniously with other members of the staff, helping to direct, uplift, and harmonize the men in attendance, with freedom from envy and absence of jealousy or heart burnings at the success of his coworkers. He must be able to cooperate with and harmoniously assist the administrative side of the hospital management. He must be eager in his desire to secure and use every scientific means for the careful and proper investigation of his patients in the hospital, and also be willing to assist in the diagnosis and treatment of the patients under the care of other members of the staff. He must encourage not only by word of mouth, but by continuous and intelligent use of the instruments of precision, the administrative officers in keeping up and fully utilizing a well-equipped laboratory and a well-stocked library in the hospital. This attitude will necessitate his giving a great deal of time to the interns, who must be carefully chosen from good schools if he wants to have good work done; and, if his clientele is at all large, he must also necessarily have well-trained, and this means well-paid, assistants. No matter how long he has served on the staff, or how well established or prominent he has become either in medicine or surgery, he must always be willing to give his time and knowledge to the training and education of the nurses in the training school attached to the hospital. With scientific idealism, hearty sympathy with his coworkers, and ready cooperation with the administration, and with every assistance given to interns and nurses, so that they will feel that they are getting full value for

their time, he cannot fail to work up an enthusiastic cooperation among those working with him which will produce the best possible results for the patients in the hospital.

I have been impressed with an article recently appearing in the *Journal of the American Medical Association* describing how ten specialists attending St. Luke's Hospital, San Francisco, have combined for diagnostic teamwork for the benefit not only of their own patients, but for those of others who may be referred to them for investigation. Such a spirit of team-work I would like to see spread everywhere. This spirit of cooperation and enthusiasm must bring to the hospital the best class of probationers for professional training as nurses, the best class of interns, and a spirit of loyalty and assistance on the part of the administration that will build up a hospital that must redound to the welfare of the community where it is located. It will be an institution, the very antithesis of a boarding house, for sick, and will create a spirit in the community the effect of which must be far-reaching in bringing about a higher standard of professional attainment among those doctors already practicing there, and will tend to create an unhealthy atmosphere for the mere money-getting practitioner or quack. It will rapidly bring about the elimination of the commercial hospital—as rapidly, let us hope, as the commercial medical school has been eliminated; and it will leave us but one great problem before an ideal medical situation has been attained—the elimination of the commercial doctor.

I cannot close this paper without expressing my appreciation of the good that must be accomplished by this splendid gathering of sisterhoods engaged in the conduct of hospitals. Justly or unjustly, too often the charge has been made and is made that, while sisters' hospitals *are* good boarding houses for the sick; that while they minister to every craving of the humanly afflicted most sympathetically; that while no labor is too onerous, no sacrifice too great for the patient, be they rich or poor, they do not give to scientific medicine and to scientifically trained practitioners desirous of doing the very best possible work that encouragement to which they are entitled by providing expert, specially trained, scientific nurses, be they sisters or lay nurses; that they do not procure the highest class of interns, nor the necessary number, to do the best work; and, more especially, that they do not supply that scientific equipment both in instruments and books that is necessary for the proper pursuit of scientific medicine. How true this charge is will be proved when, after proper inspection, the hospitals are classified as the medical schools have been classified. Personally, I must say that for twenty-five years my work in a sisters' hospital has been encouraged by the heartiest cooperation on their part; that they have been alive to the requirements of the situation; that where we have fallen short has often been because I did not urge strongly enough or move fast enough where scientific medicine beckoned, and I trust that, when the roll is called, the sisters' hospitals throughout the United States will be—as is the sisters' hospital at La Crosse, where I work—in class "A."

What the Patient Should Contribute to the Team-Work[1]

BY W. E. FAIRFIELD, M. D., F. A. C. S., Green Bay, Wis.

The thought that possibly the patient may be taught to contribute to the successful operation of a modern hospital may appear a bit strange to those who have looked on him as "material" to be molded or exploited, as the needs of the institution and the fancies of the attendant shall direct.

You will all freely admit that a modern and well-organized hospital, balanced and equipped in every department, would present a sorry appearance without the subject of my paper, and you must therefore also admit that he is a part, and not a small one, of the institution we know, and whose material and scientific advancement we are aiming to promote.

Some philosopher has said that the "education of the child should begin with the parents." We all admit the wisdom of the assertion, and I will ask you to make a practical application of this philosophy and assume with me that the education of the individual patient must and should begin with the education of the great public, particularly as it applies to the ethics of the temporary relationship made necessary by residential treatment in a hospital.

It is manifestly impractical to give *a priori* instructions to a patient about to enter a hospital. The individual who is suddenly attacked with gallstone or renal colic is in no frame of mind to listen to dissertations on his duty or his contribution to the teamwork in the hospital to which he is about to be removed. His suffering and his anxiety are not conducive to absorption of knowledge along these lines. He feels that he is doing quite enough when he submits his anatomy to the tender mercies of the staff and attendants, and so one must dismiss the thought of imparting knowledge to the emergency patient at least.

It is notorious, however, that the patients of certain physicians and surgeons give a great deal of trouble in a hospital, while those of others give very little. I think that there are various explanations for this lack of uniformity, the principal of which is absence of faith in the physician or surgeon on the one hand and possession of it on the other.

The patients of the surgeon who secures his cases because of the community faith in his judgment and skill are much more apt to cooperate with the hospital authorities than are the patients of him who depends not on skill so much as on his religious or lodge affiliations, his hyphenated Americanism, or the social position of his wife.

The first axiom, then, resolves itself into this—to secure the cooperation of the patient, one must be assured of the patient's faith in his attendant's skill. Having established this psychology, it will be comparatively easy to secure patient and appreciative attitude pending the long and tedious processes of diagnosis made necessary by such conditions as cancer of the stomach, duodenal and gastric ulcer, organic and functional diseases of the kidneys and bladder, not to mention many others.

The second desideratum is to secure such passive assistance from the patient as will make possible arrival at an honest diagnosis, if not at a correct one. In this, one must have the assistance of everyone who comes in contact with the patient. Not only must each one impress the patient with the fact that the disagreeable features of the examination are unavoidable, but that every care is being taken to render them as unobjectionable as possible.

I recently visited a very imposing institution. In looking about I discovered an intern doing gastric lavages at a slop sink. Now, I submit that the appearance of a nurse with a bed-pan which was emptied into the receptacle was not conducive to the contentment and complete satisfaction of a discriminating patient.

While the patient must be taught that he should cheerfully submit to all the examinations required to arrive at

[1]Read at the meeting of the Catholic Hospital Association, Milwaukee, June 7-9, 1916.

a correct diagnosis, and that the physician should have credit for the painstaking and conscientious labor he puts on the case, yet no encouragement should be given to exploitation.

In a hospital I recently visited I became interested in a very pretty little girl of about four years, and I asked a nurse if I might read her history. A voluminous mass of literature was brought in, on which was recorded such data as the number and condition of her teeth, examination of blood, feces, urine, and, of course, a Wassermann. Tiring of the reading before I arrived at the diagnosis, I turned to the little one and said, "What is your trouble, my pet?" The answer came like a flash, "I put a bean in my nose." Now, I am willing to submit that we in Green Bay, who do not make a Wassermann for "a bean in the nose," should not be reproached for our unscientific handling of cases.

Murphy has recently said that a man using his formalin glycerin joint treatment should be expected to put some brains back of it. It is a forceful saying, and it applies to everything we do in life, as well to the selection of a weapon with which to commit suicide as to the choice of an instrument to be used in an examination. But great care may sometimes be disastrous. To use an applicable illustration, we should commend the making of a Wassermann examination in the differentiation of an enlarged middle prostatic lobe from disturbance due to a tabetic bladder, and likewise we should condemn the slow processes of a complete laboratory examination in a suspected perforated duodenal ulcer.

I beg your charitable indulgence when I appear to digress from my subject proper, and ask you to bear in mind that I am contending that the cooperation of the patient must be secured, first, through his education to the point of being able to discriminate between a surgeon and a taxidermist, or a physician and a member of the ladies' sewing society.

The trend of human thought has always divided people into classes and sects, and this division inevitably results in antagonism between the masses so segregated. We find it in politics, where we have the Progressive and the Reactionary. It is further exemplified by a separation of the rich and the poor, the noble and the plebeian, the educated and the illiterate, and even in the religious world we have the Protestant and the Catholic, the believer and the agnostic. Unfortunately a habit so universal has spread its blighting influence on the individual who seeks relief by entry into a modern hospital, and his actions can often be explained only on the theory that he believes the hand of the surgeon or physician as well as the hands of all his attendants are turned against him, and he must therefore defend himself against exploitation rather than attempt to cooperate with those whose best endeavor it should be to drive away pain and despair, and replace these with health and hope.

If there is reason for this lack of cooperation, then we should seriously examine ourselves and ask the question, "Am I giving such service as I would ask to be given myself or to a member of my family in like circumstances?" If one's reply cannot be "yes," that one is a menace to the good relationship which should exist between the patient and the institution.

While I am here to criticise the actions of the patient when they do not conform to his own best interests, I am also here to defend him from assault, and to say in his behalf that it is perhaps a good thing for him that he is not too confiding and submissive in a state and age when the decision to remove such a vital organ as a kidney or spleen too often hinges on the sole question, "Will he stand the operation?" I am here to defend him against the meddlesome curiosity of the unfit, and to criticise in no uncertain terms the hospitals which fill their beds with the patients of men who have neither training nor adaptation to make accurate diagnoses or to develop technic in their work. I contend that the hospitals should not be blind to the exploitation of patients, and that when they shall have taken a firm stand on the side of common justice, if not of common decency, they will say to the charlatan and to the unfit, even if trained "surgeon," "We will not become a party to your unskilled and bunglesome efforts, and, if you wish to continue to do surgery or other work which requires skill and experience, you must qualify yourself before you can become connected with this institution." And it is not only in surgery that the patient has a cause for complaint. The medical and diagnostic end of practice are as bady managed, if not more so. Young men are being graduated and given internship in hospitals who have no experience and no dexterity, and yet to these young men are given work which requires the greatest skill. It is a crime to allow such an individual to pass a metal sound, and yet into his hands is placed the cystoscope and the ureteral catheter. A splendid contribution to teamwork on the part of the patient would be to have him so informed that he could discriminate between the skilled and honest and the unskilled and unscrupulous, and the first step to this end is to teach him that there are both classes.

The patient has something else to contribute besides the use of his body and the provision of a fee, and the hospital is singularly well placed to practically demonstrate this by refusing the patients of the unfit. Systematic and well-directed effort by the profession and the hospitals to educate the patient to a just appreciation of medical and surgical skill is necessary, so that he may by reason of that knowledge recognize and shun the dangerous attentions of those who, because of lack of ability or knowledge, or because of inborn dishonesty, jeopardize the patient himself and reflect on the honest and skillful portion of the profession. We who represent the patients, therefore, ask your cooperation and your earnest solicitude to the end that when we are the victims of error, it shall be at least an *honest error.*

The Community's Obligation for the Care of Its Indigent Sick and Injured[1]

BY FRED. S. BUNN,

Superintendent of the Youngstown (Ohio) Hospital.

On the front cover of the latest report of the Boston Dispensary appear these two terse epigrams: "The cure of disease is a public necessity," "The prevention of disease is a public economy."

We believe anyone sufficiently interested to give the matter of public health serious thought will accept these statements at their face value. While we fully accept them as equally true, it is our purpose in this paper to deal particularly with the first one.

In all civilized countries it is a recognized function of the family to care for its sick and injured. When families unite to form a community for their mutual protection and benefit, the care of dependents is none the less an obligation, even though it may not be so readily accepted. In fact, the obligation is greater, for, as communities grow in size and living conditions become more

[1] Read at the meeting of the Ohio Hospital Association, Cincinnati, May 24-26, 1916.

complex, life is fraught with greater dangers. In few cases where one is afflicted with disease is the fault entirely his own. If he contracts typhoid fever, it is because of contamination of the community's water or food supply. If he suffers injury while at work or on the street, it is frequently due to another's disregard of established rules. If he is afflicted with one of the many so-called contagious diseases, it is due more often to the ignorance or viciousness of one already afflicted than to his own carelessness or neglect. If, then, disease and accident are so often suffered through no fault of the one afflicted, why should he be, as under our present system he is, compelled to bear the entire penalty? The injustice of this is not so evident where one's income is sufficiently large to withstand the drain of both lost time and the expense incident to accident or illness, for his problem does not necessarily intrude itself on our attention. But in that large class of cases where income is sufficient to secure only the bare necessities of life, loss of time and unusual expense bring in their train such a heavy burden of suffering that every humanitarian consideration demands that the community transfer to its broad shoulders the load for which it is at least partly responsible, and assume the obligation it cannot honestly refuse. "There is that withholdeth more than is meet, but it tendeth to poverty. There is that scattereth and yet increaseth." The investment a community makes in the health of its people is one of the wisest and most profitable it can make, for every member restored and thus enabled to become again a producing factor will repay yearly to the community's wealth many times the initial outlay.

The state, by enacting laws imposing on itself an obligation to assume the whole expense and care of certain classes of dependents, has thereby established as a principle the community's obligation to provide such care. It has further emphasized this principle by granting statutory authority for the establishment of county or municipal institutions for the care of all classes of sick and injured, and it has given permission to counties and municipalities to contract with private hospitals for such care.[1]

We are convinced that Ohio has been wise in withholding "state aid" from general hospitals, and in seeking rather to place the responsibility for the care of the indigent sick and injured on its counties or cities. By county or city control there is secured a more direct supervision of the expenditure of public funds, and a more definite responsibility for the hospital's product. This method has the added advantage of placing a premium on the adoption by each locality of preventive measures for safeguarding the health of its people, the resulting economies being more readily apparent in the smaller units.

Ideally, the care of such patients should be given in a hospital owned and operated by the city; particularly is this true in the very large cities, but in the smaller cities this can be efficiently and economically done by the municipality contracting with a private hospital for the care of its patients.

We recognize that quite generally there is an attitude of suspicion on the part of the public toward the payment of money derived from taxation to a privately owned hospital, but we believe that this attitude is largely due to the manner in which the public has been educated. The following is fairly representative of the way the public has been led into a position where it looks on the payment of "city money" as a subsidy to the hospital when the exact reverse is the true situation; in every case where a city or county fails to meet the whole cost of the care of its sick poor, the hospital is subsidizing the community.

The first hospital in a community is usually the result of private initiative and philanthropy; during the first few years, while the community is becoming educated to the advantages of institutional care, it is comparatively easy to secure sufficient funds from private sources to give care to such citizens as are unable to secure adequate medical attention for themselves; but, as the hospital grows, and its free work increases in volume, the constantly recurring "annual deficit" becomes more and more difficult to finance. It is at this point in the hospital's development that the idea is conceived of asking the city to come to the rescue of suffering humanity by making "an annual contribution to aid the hospital in its work of mercy." City officials usually respond to such efforts; but, unless the matter is kept constantly before the council and sufficient public sentiment maintained to stimulate the council, the appropriations fail to keep pace with the constantly increasing demands, and at times altogether fail to find a place in the budget. These recessions of public interest not only lay added burdens on the loyal few who have supported the hospital's work, but also seriously retard the institution's progress. The point we wish to make is that, even though the process may be slower, a more stable support can be secured by educating a community up to a true sense of its responsibility than by allowing it to discharge only part of its obligation, and remain complacent in the misconception that it is generous in contributing to a worthy cause. When a city refuses to make proper medical provision for those of its wards who are sick, and leaves the problem of their care to private charity, it is like an inhuman father who says to his sick child, "Son, I am under very heavy expense just now, and we have good neighbors who will not see you suffer; so get out and come back when you are well again."

A troublesome question which often arises in connection with municipal appropriations for a private hospital is the one of city representation in the hospital's management. There is really no more reason for the city being represented on the bospital board of trustees than there is for it being represented on the board of the corporation that sells it fire equipment. The hospital has for sale a service the city must buy. A better grade of service can undoubtedly be secured by the council assuming a judicial position as to the fulfillment of its contract than it can by assuming a part of the responsibility through representation on the board. From the hospital's standpoint such representation would interfere with a consistent constructive policy, because of the necessarily frequent changes in personnel incident to the insecure tenure of political office.

Whenever in any city privately owned hospitals provide sufficient facilities for the care of all patients, a municipal contract with such institutions is to the advantage of both city and hospital. It secures that happy combination of private initiative and public scrutiny which assures a high grade of service for the patients. It prevents duplication of buildings by utilizing those already donated for the purpose, thereby saving the community thousands of dollars annually in interest on the capital necessary to erect adequate buildings for the city's exclusive use, while it aids the hospitals in keeping their per capita cost to a minimum, as it simply means dividing the overhead charges by a larger number, as well as fur-

[1]See revised statutes of Ohio.

nishing valuable clinical material. These advantages to the hospitals enable them to make a rate for city patients which will cover actual cost of service, exclusive of investment charges.

The experience of the Youngstown hospitals with this problem may be of interest to the members of this association. Youngstown, a city of 100,000 people, has two hospitals—the St. Elizabeth, a Catholic institution, and the Youngstown Hospital, which we have the honor to represent. The combined capacity of the two is 400 beds, which, up to the present, have been sufficient for the care of all proper applicants for admission, either city or private. From 1898 until January, 1916, the city appropriated a fixed sum for hospital purposes, their contract with the hospitals requiring that they accept all cases certified and accept as full compensation therefor the amount the city officials saw fit to appropriate, with the result that in ten years the hospitals lost on this work alone more than $100,000. About two years ago the hospitals arrived at a point where it seemed impossible to finance their work because of increasing yearly losses. They agreed to attack the problem jointly, and undertook a campaign to inform the public of the true situation. The whole matter was put frankly up to the community without reservation of any kind. The papers of the city heartily indorsed the hospital's position and gave the matter a conspicuous place, both papers commenting favorably on it in their editorials. In fact, without their loyal support the attempt would have been hopeless. Representatives of both hospitals were given opportunity to speak before various organizations. A number of the ministers brought the subject to the attention of their congregations. The result of it all was that sufficient public sentiment was aroused to prompt the council to enact the ordinance under which we are now working. We were fortunate in having an administration broad minded and public spirited enough to read aright the public mind.

Briefly, the ordinance provides that the city pay to the hospitals $1.75 per day for each day's service rendered to patients worthy of receiving such care when certified by an agency appointed by the council. At present these certificates are issued by the board of health after investigation by a member of the sanitary police force of any case recommended by a physician or other interested party. While this arrangement has not been in operation a sufficient length of time to justify us in presenting it as a solution of the difficult problems which arise in adjusting the relation of the community to the hospital, so far it has worked very satisfactorily to both city and hospitals.

Now, we have tried to show that the community is responsible for the care of its indigent sick, that ideally this should be done in a municipally owned and controlled hospital, but that it can be economically and efficiently done by a contract between a municipality and a private hospital; that objections to this method are largely due to faulty education; that better service can be secured without city representation in the management of a private hospital; and that such a method is both practical and economical, and works to the advantage of both community and hospital.

The hospital association of the Missouri, Kansas & Texas Railway Company is considering various cities of Texas with the view of selecting a location for a $250,000 hospital, which it is planned to build in the near future. More than 7,000 employees of the road live in Texas. T. A. Murphy, of Denison, is president of the hospital association.

NEW YORK LAUNCHES NEW FLOATING HOSPITAL

The "Helen C. Juilliard," Named For Its Donor, Is Put Into Service By St. John's Guild

St. John's Guild, New York city, has recently put into service its new floating hospital for children, the Helen C. Juilliard, built and equipped at a cost of $125,000, and said to be a model of its kind. The new boat, which is the third of similar design to be operated by the guild, has a legal carrying capacity of 2,400, but it is proposed to limit the number of patients to 1,200 in order to give the best quality of service. The hospital arrangement provides four wards, an operating room, an irrigation room, a sterilizing plant, and a small mortuary. An emergency ward, with three beds for mothers of the sick children, is a feature.

A convenience for mothers whose babies are not sick enough to go into the wards has been installed in the form of wire frames on the backs of the long benches on one of the decks, with small hammocks suspended.

The boat is lighted by electricity, and has a steam heating plant which will permit of its use in winter as well as summer. There are bath rooms for both mothers and children, with arrangements for fresh water or sea water, hot or cold, or for regulated temperature for medicated baths.

The hospital staff will include a superintendent, eight nurses, a physician, matron, and housekeeper, in addition to the necessary domestic assistants.

Mrs. Juilliard, donor of the new hospital boat, which is the second she has built for the guild, died on April 2 of this year.

SANE PERSONS IN INSANE HOSPITALS

Georgia Institution Reports 105 People Were Illegally Committed Last Year—Law at Fault

The State Board of Health of Georgia has just recorded the fact, in a report, that 105 perfectly sane persons were confined at the insane hospital at Milledgeville during the year 1915, committed there by due process of law. All these persons had trial by jury, and it is said that in not one single case was it shown that any illegal attempt or unfair purpose was behind their commitment, but that the law itself was at fault, which provides that only lunatics, idiots, epileptics, and demented inebriates are to be committed and confined. It is in the last class where the trouble lies, the officers of the law presumably insisting that inebriates are all demented. The report of the Milledgeville institution states that it is the friends or relatives of this class of irresponsibles who are responsible for their commitment, and that those relatives and friends reason that any man who becomes inebriated must also be demented and ought to be confined.

The Atlanta *Constitution* is heading a move to define more clearly just what classes of patients may be committed to the state hospitals, and to see that sufferers from any disease who pass through legal channels are distributed to places where their diseases can be properly recognized and taken care of, and where they will be considered as sick people and not as criminals or dements.

Dr. P. M. Kelley, who recently resigned the superintendency of the Kankakee State Hospital, Kankakee, Ill., after being at the head of the institution for a number of years, died of Bright's disease at Colorado Springs May 31.

CURRENT HOSPITAL LITERATURE

ALBERT ALLEMANN, M. D., Foreign Literature.
Army Medical Museum and Library, Office of the Surgeon-General, United States Army.

The War's Effect on the Special Hospital. Ed. of the Hospital, 1916, LIX, No. 1554.

The resources of all hospitals have been heavily taxed on account of the advanced prices in drugs during the present war, but more especially have those institutions been affected that care for epileptics and ophthalmic cases. The National Hospital for the Paralyzed and Epileptics uses annually one and one-half tons of bromides, and, assuming the entire amount to be in a potassium salt, at the present market value the increase would be nearly seventeen times the prewar price. All ophthalmic hospitals have suffered from the shortage of atropin and eserin, which are now worth more than their weight in gold.

Dietotherapy. E. Grace McCullough. The Trained Nurse, 1916, LVI, No. 6.

The earliest diet table in the world was very short—"of every tree in the garden thou mayest freely eat, except—." There have been many distinct changes during the past ten years. One diet has passed out, giving place to another, and it in turn has been replaced. Diet lists and grouped diets are gradually being eliminated from ward bulletins. The old beef broth, beef tea, beef regime has been abolished, and the hospital which formerly issued gallons serves pints. The daily per capita quantity of milk has dropped 50 percent. Calories are estimated up or down to the normal weight for the measurements of the patient. The feeding up no longer means simply extra eggs and a few glasses of milk; the feeding down, not merely a reduction in bulk, but intelligent elimination. In special or metabolism cases all feeding should be on the basis of intake and output equilibrium, with special reference to the character of the disease, the more or less severity, plus complications.

Care of the Sick at Dordrecht (Ziekenverpleging te Dordrecht). E. Cuypers, Archit. Ziekenhuis, Amsterdam, 1916, VII, No. 4.

The Dordrecht Society for the Care of the Sick has recently erected a hospital in the suburbs of the city. In planning the hospital it was decided to strictly separate the buildings for the patients from the administrative offices and rooms for the nurses and servants. Of the two buildings for the patients, only one it as present finished. Between the two stands the administrative and nurses' building, which is also completed. The patients' building, connected by a covered gallery with the administration building, has three stories. On the ground floor are six sick rooms, with two beds each, one reserve room, a bath room, and a nurses' room. The second floor has the same arrangement as the first, with the difference that the six sick rooms have only one bed each. On the third floor is one large and one small operating room, a sterilization, x-ray, and dressing room. The administration building contains on the first floor the administrative offices and a dining and recreation room for the nurses. The second floor contains the rooms for the chief nurse and eleven nurses, and the third floor contains those for the servants.

Mortality Among the Patients of the French Military Hospitals (La mortalita dei ricoverati negli ospedali militari francesi). Ospedale Maggiore, Milano, 1916, IV, No. 2.

Dr. Bertillon, director of medicosurgical statistics of the French army, has drawn up mortality statistics of the French military hospitals. Of 100 soldiers treated at the hospitals, 98 recovered and 2 died, or, more exactly, the mortality is 18 per 1,000. In the civil hospitals of Paris the mortality is six times as large—viz., 106 per 1,000. The mortality of the soldiers in September, 1914, was 45 per 1,000, in October of the same year it reached even 53 per 1,000, and then fell to 18 per 1,000. These statistics include sick and wounded soldiers.

Cleaning Aluminum Ware. Minna C. Denton, Jour. of Home Economics, 1915, VII, No. 6.

1. "Boiling out" with water. Hot water itself causes a darkening of aluminum, which shows plainly on heating clean water in a clean vessel even before the boiling point is reached. This "tarnish" is very troublesome to remove. (To remove the tarnish, observe No. 4, below.)

2. Boiling with soap or alkaline detergents. The action of alkali (e. g., sodium, ammonium, and potassium compounds) will ruin the vessel in time. Such neutral soap as Ivory may be used if there is grease to be removed, but aluminum vessels should be kept out of the usual soapy dishwater.

3. Rubbing with metal polishes. It is impossible to make a statement which would cover all kinds of metal polishes. I notice that aluminum manufacturers recommend the use of some of them which I have found satisfactory.

4. Cleaning by use of abrasive materials. I have found the use of steel wool No. 0 the quickest and most efficient means of removing the black tarnish. Another abrasive cleaner has a twine mesh basis, its threads being wrapped with fine copper bands. It has appeared rather recently in household furnishing stores, being originally an importation from Germany.

5. Cleaning with acids. It has been noted that when a highly acid food, as rhubarb, is cooked in an aluminum kettle, any dark coating vanishes. Authorities differ as to the harmfulness of the small amount of water-soluble aluminum salts that would thus be taken in the food. Extreme caution would suggest that such foods be cooked in porcelain-lined kettles. Experiments show that the harmless commercial acids would be very expensive when used in quantities sufficient for satisfactory results.

German Hospital Trains (Deutsche Lazarettzüge). Dr. P. Martell. Wiener klin. Rundschau, 1915, XXIX, No. 45.

A German hospital train is composed of thirty-nine cars. Twenty-four of them are hospital cars, each containing 12 beds. There is, besides, a hospital car for

wounded officers, with 8 beds. A train has thus room for 296 patients in all. There is also a car for the surgeon-in-chief, containing also the dressing room, a car for the surgeons, an administrative and drug car, two cars for the men of the hospital corps, two kitchen cars, three storage cars, three cars containing heating apparatus, and a baggage car. The iron bedsteads of the hospital cars are attached in two rows, one above the other, to the sides of the car and rest on steel springs. The personnel of a hospital train consists of a surgeon-in-chief, three surgeons or assistant surgeons, a field hospital inspector, sixteen noncommissioned officers, and sixteen men of the hospital corps. The railroad furnishes the necessary officials and men for the service of the train.

Hospital Liability. Ed. Cal. State Jour. of Med.

The liability of a hospital for the negligent or careless acts of its employees or staff depends on the character of the hospital. All state institutions—hospitals, asylums, and the like—are expressly without liability for torts due to the negligence or lack of skill or judgment of their employees, and the rule holds as to strictly county or city and county institutions. Nor is there liability in such institutions for insufficient or poor food. Private hospitals are of two sorts: charitable institutions and those for gain. Railroad hospitals, though not for gain, are held not to be charitable institutions. The courts in the various states are not absolutely agreed as to the nonliability of charity hospitals, but the great weight of opinion is that they are not to be held in damages for the negligence of their employees or staff, and in this state that is the rule. The argument is that such hospitals are supported by funds given for charity, and that such gifts may not be diverted from that purpose for the payment of damages to individuals who may suffer from negligence, etc. With hospitals for gain or profit, however, the rule is quite otherwise; they are liable for the torts or wrongs of their employees due to negligence, carelessness, lack of skill, and the like. The trend of all recent decisions is that such hospitals, even though they may have exercised due care in the hiring of servants, are responsible for the negligent acts of such servants. Thus a hospital was held in damages for the death of a typhoid patient who jumped from the open window in the absence of the nurse from the room for a brief space; another was held for the burning of the patient by a hot-water bag placed in the bed by the nurse; and another for mistakenly giving the patient a solution of bichlorid of mercury. But it must be well proved that the act complained of was the act that caused the wrong. Such is the general status of hospitals in their legal relationship to the public, and it seems reasonable.

The War Hospitals of Vienna (Die Wiener Kriegsspitäler). Wiener klin. Rundschau, 1915, XXIX, No. 39.

At the outbreak of the war a hospital of 1,300 beds was at once established, but this proved far from meeting the demands. There was almost from the beginning a lack of hospitals for soldiers with infectious diseases. It was decided to build two large hospitals, with 2,500 beds each, for infectious diseases. These two hospitals were erected in the suburbs of Vienna at an expense of 10,000,000 crowns ($2,100,000). As these hospitals were especially erected with a view to the highly virulent infections (smallpox, typhus fever, cholera, yellow fever, plague, etc.), it was necessary to reduce as far as possible the danger of infection in the hospitals and to prevent the diseases from being carried from the hospital among the people. For this purpose the whole hospital is divided into a "clean" (rein) and an infected (unrein) division. At the same time the rooms of the service personnel are strictly separated from those of the patients. On one side is the group of "clean" buildings proper, and in the middle a group of buildings in which the division into a "clean" and an infected portion is strictly carried out. There are two large halls for receiving patients—one for those who can get about and one for the seriously sick and wounded. The patients are thoroughly cleaned from head to foot before they enter the hospital proper, and the clothing is put into a bag, sealed, and sterilized by steam disinfection.

What Is Meant by Hospital Efficiency, and Some of the Factors Which Are Often Responsible for Lack of Efficiency. Dr. Winford H. Smith, Johns Hopkins Hospital, Baltimore. Jour. Am. Med. Assn.

Those who have discussed this subject have measured hospital efficiency in many different ways. The per capita cost really tells nothing, except as applied to a particular institution under consideration. The patient is the prime consideration. The primary purpose of the hospital is to treat and care for the patient, and the end result should be all that modern skill and knowledge, supplemented by the necessary facilities, can accomplish at the hands of the carefully selected individuals composing the organization. The organization is the power that produces the results. Hospital efficiency means thoroughness, with sympathetic consideration and uniform kindness. It means the courteous reception of the patient, with due consideration to his claims to charity; prompt, skillful medical and surgical attention, careful and skillful nursing; a thorough study, not only of the symptoms and findings, but also of the bearing, which means accurate and complete records; a discharge of the patient at the proper time, with a full knowledge as to his ability to carry out instructions for continued convalescence, and the machinery with which to make proper arrangements when necessary; and throughout the whole course of hospital procedure a careful attention to business detail, economy of time, effort, and materials, at the same time avoiding any tendency to look on the patient as a mere case or number. Some of the factors which are commonly responsible for efficiency are, first, a lack of funds; second, in large cities, hospitals are located with too little consideration of the needs of the section selected, with the result that some sections have more hospitals than are needed, while other large sections are absolutely without hospital provision; third, organization, first and last, is one of the most important factors. The board of trustees is the governing body and the final authority, and should therefore be chosen with the greatest care. The staff organization is no mean factor in hospital efficiency. No member of the staff should be eligible to the office of trustee. Appointments to the staff should be made only on merit. The superintendent should have the authority as well as the responsibility, and should at all times have the support of the trustees and of the staff.

The National Free Tubercular Sanatorium Association, recently incorporated with a capital stock of $100,000, proposes to establish a charitable sanatorium at Alamogordo, N. M. In addition to caring for persons suffering from tuberculosis who are not able to pay for treatment, the association expects to do considerable research work. The articles of incorporation were signed by L. L. Powell, of Oklahoma, formerly of San Angelo, Tex.; George H. Healy, of Beaver, Okla.; and Dean Sherry, of Alamogordo.

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TO STUDY HEALTH INSURANCE

Massachusetts Legislature Appoints Commission—California Already Is at Work—New York and New Jersey Active

In response to public interest in health insurance, the Massachusetts Legislature has created a commission to study social insurance, with special reference to sickness. The state department of health and the bureau of statistics are directed to cooperate with the commission of nine members, which will prepare a report and recommend the form of legislation to be introduced in January, 1917. California has a similar state commission already at work on this problem, which is attracting wide attention since the introduction this year of bills for health insurance in Massachusetts, New York, and New Jersey. Proponents of this legislation believe it will bring about a movement for "health first" comparable to the "safety first" campaign which followed workmen's compensation for accidents.

The supervisors of Nassau County, New York, are considering sites for a county hospital, for the establishment of which a fund of $100,000 was appropriated in 1914.

DEPARTMENT OF NURSING

Conducted by MISS ANNIE W. GOODRICH,
Teachers' College, Columbia University, New York City.

Please address items of news and inquiries regarding Department of Nursing to the editor of this department, Teachers' College, Columbia University, New York City.

Report of the Proceedings of the National Organization for Public Health Nursing at the New Orleans Convention

BY ELLA PHILLIPS CRANDALL, R. N.,
Executive Secretary.

The fourth annual convention of the National Organization for Public Health Nursing, recently held in New Orleans, was marked by a record attendance, its notable members, and by a splendid enthusiasm. The program gave formal hearings to public health nursing under government control, organization and administration of public health nursing, medical social service, tuberculosis and mental hygiene nursing, and public health nursing education. The first was presented to a large evening audience, and furnished papers of permanent and far-reaching value on public health nursing under municipal, county, and state control. They represented Jacksonville, Fla.; Los Angeles, Cal.; Baxter county and San Antonio, Texas; and the State Department of Health of Ohio. Almost as a corollary to this general subject was that of health insurance with nursing care, by Miss Olga S. Halsey, of the American Association for Labor Legislation. These papers not only gave proof of what can be done, but clearly pointed out how great is bound to be the extension of public health nursing in the near future under pressure of public demand.

The most important in its immediate effect was the session on public health nursing education, to which were added two papers in a joint session with the National League of Nursing Education. These resulted in a unanimous vote of the League to take steps at once toward the introduction of a very modest introductory course into qualified schools of nursing. About half of the course is to be required of all students and the other half elective for seniors. The joint program on mental hygiene has doubtless been presented to the readers of THE MODERN HOSPITAL. In the report of the league it marked a significant step forward, especially in the education of all nurses in mental nursing.

In addition to the formal sessions, there were eighteen round tables, representing all other sections of the organization, such as records and statistics, visiting nursing, school, infant welfare, prevention of blindness, and industrial nursing, together with various others on rural visiting nursing, technic, and publications. While the program meetings, with their enlightening and stimulating papers from experts from all parts of the country, enlarged the vision of all in attendance, and gave them a new sense of the great opportunity in public health nursing, the most definite suggestions for their own particular problems came from the free give-and-take of round table discussion, where practically no papers were read. Almost every round table session felt that one such meeting for their group was not nearly enough, and in each instance a second one was allowed. The attendance at these group meetings varied from fifty to one hundred and fifty. It is impossible on paper to do justice to the eager, enthusiastic seeking spirit shown at these meetings.

The more important findings of the convention were: the adoption of a standard record card for general visiting nursing service, and instructions to the committee to prepare during 1916-17, in conjunction with the several standing committees, standard cards for the special forms of public health nursing, monthly and annual report forms, and a standard financial statement; the extension of visiting nursing to include hourly service wherever practicable; the ruling against relief giving as a function of any public health nursing service; and providing for relief committees to cooperate with nurses in small communities, which shall not be a part of the visiting nursing association; the recommendation of publication of a manual on the technic of visiting nursing; the inclusion of the *Public Health Nurse* quarterly with membership in the national organization; the publication of the *Bulletin* every two months instead of once a quarter; the announcement of Miss Gardner's book on organization and administration of public health nursing early in the autumn; the approval of a national charter, and biennial instead of annual meetings after 1918.

The most significant resolutions passed were: (1) that addressed to the General Federation of Women's Clubs, requesting clubs and federations—local, state and national—to earnestly consider the extension of public health nursing as their next great field of endeavor, which would be a logical sequel to their cooperation with the Federal Children's Bureau in the promotion of "Baby Week" last March; (2) the indorsement of the Jones bill, S. 5408, providing for a woman's division within the federal department of labor; (3) that favoring health insurance under state control and providing for nursing benefit; (4) that in memory of Dr. Henry Baird Favill and Dr. Theodore Sachs.

The officers of the organization for 1916-17 are: honorary president, Lillian D. Wald, New York; president, Mary Beard, Boston; first vice-president, Nan Dorsey; second vice-president, Mrs. Margaret Sirch, Los Angeles, secretary, Mary E. Lent, New York; treasurer, Samuel Sloan Colt, New York; chairman Membership Committee, Mary Magoun Brown, New York; executive secretary, Ella Phillips Crandall, New York.

The board of directors consists of S. H. Cabanis, St. Augustine, Fla.; Fannie F. Clement, Washington, D. C.; Ida N. Cannon, Boston, Mass.; Mrs. Elizabeth Davies, Seattle, Wash.; Edna L. Foley, Chicago, Ill.; Elizabeth G. Fox, Washington, D. C.; Mary Gardner, Providence, R. I.; Matilda L. Johnson, New York; Mrs. Kate Kohlsaat, Milwaukee, Wis.; Isabella H. Pirie, Los Angeles, Cal.; Rebecca Shatz, New York; Elizabeth Stringer, Brooklyn, N. Y.; Blanche Swainhardt, Cleveland, Ohio; Lena A. Warner, Knoxville, Tenn.; Martha J. Wilkinson, Hartford, Conn.

Corrective Work and Its Relation to the Nurse

BY MIRIAM TOWNSEND SWEENEY,
Director of Physical Therapeutics, Children's Hospital, Boston, Mass.

Nursing education in America has been far in advance of England, Germany, and other European countries, though to England will always be given the glory of her

Florence Nightingale and the first training school for nurses, and Germany will ever be famed for the establishment of the Deaconess order.

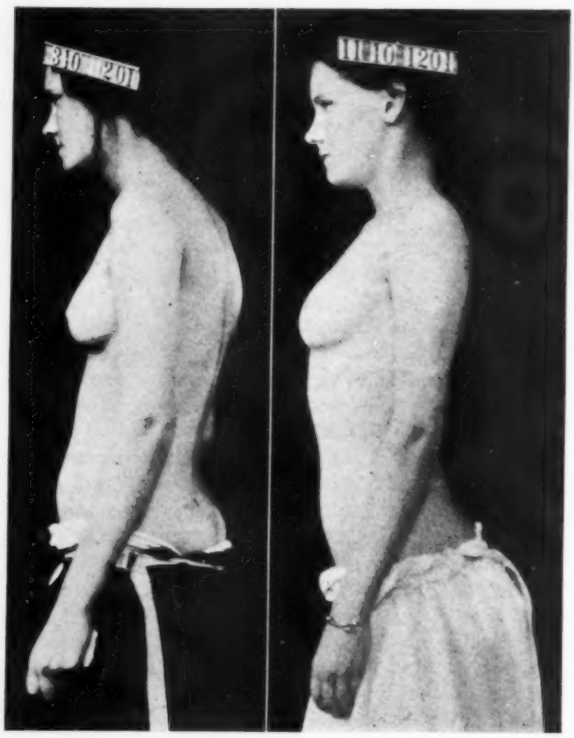
Since the founding of the first training schools in America in the years 1871-1873 the progress has been steady, though necessarily gradual. These schools at this early period found competition keen, and necessarily had lower standards than were desirable because the demand was greater than the supply. Responding, however, to the increasing needs of the community, nursing now ranks as an art and a profession, and the demand is for women of a broad education and keen intelligence to develop the many phases of modern nursing. This demand for a high grade of efficiency puts the competition along the right lines, and, in order to compete, the training nurse must be alive to all sides of her work. Not only must she grasp all opportunities, but she must have these opportunities available in order to be completely trained.

Corrective work—so called—is so little known in the field of nursing that undoubtedly a definition and description would be desirable—it is that branch of therapeutics which uses principally exercise or massage, or the two combined, for palliative or curative purposes. As a therapeutic measure, the fully trained nurse should be as familiar with corrective work as with the other methods of treating disease. It is, for example, much more a part of her work than urinalysis, blood examination, or even the giving of vaccines; yet it is undoubtedly true that few women, even those ranking high in the profession, have other than the most superficial knowledge of this important subject. Except in the larger hospitals, there is no specially trained person to do this work, and in most general hospitals the nurse will have occasion to do corrective work on medical, surgical, and orthopedic wards. Though at the present time it is a great question, to be carefully considered from every point of view, how much time may be legitimately given to special branches of nursing with their varying demands, it does seem essential that the nurse should have at least an elementary knowledge of this line of work, the results of which constantly emphasize its importance.

Take, for example, the value and extent of post-operative treatment in orthopedic and surgical conditions. In cases of infantile paralysis, a large number of which is necessarily operative, the value of correct muscle training by exercise and massage cannot be overestimated. To know the extent to which a muscle may be used without producing harmful fatigue, and to be able to apply the proper exercises, grading them according to the strength of the exercise as well as of the muscle, are technical details which probably will never be within the province of the nurse, but the proper giving of prescribed exercises and a practical knowledge of massage might well be incorporated in the curriculum of the more advanced schools.

Cases of congenital hip disease after reduction are taught to overcome the stiffness produced by long retention in plaster, by passive and later by active exercises, plus massage, which produces flexibility and improved circulation. Known cases of mild clubfoot in infants have been so definitely benefited by passive stretchings that operative measures have been abandoned and the results have been satisfactory.

Lateral curvature of the spine or scoliosis is a condition the treatment of which is largely by corrective exercises, aided by effective support. The nurse meets this type of case in private practice; for such cases the treatment is usually carried on over a long period of time, during which intelligent supervision is essential. In a number of the larger hospitals special clinics for the treatment of this condition are a routine part of the out-patient department. The assistants in these clinics are perhaps for the most part volunteer student workers from schools of physical education in the vicinity. How much more practical and of how much greater value to the training school and to the pupil if the experience in these clinics could be added to their instruction. In such clinics they could be taught their exercise technic and put their knowledge into practical use on clinic cases. Such an arrangement would be of benefit to both the hospital and the training school.



1. 2.

Fig. 1—Girl, age 15, before beginning treatment by corrective exercises. Fig. 2—Same case seven months later, after treatment by corrective exercises.

These accompanying pictures, showing results which are wholly due to a series of well-directed corrective exercises, given for a comparatively short period of time, well illustrate the striking mental as well as physical effect of such treatment on the patient. To enumerate further types of such cases would only be to state this fact—that most orthopedic conditions are definitely benefited by such treatment carefully carried on under the direction of the surgeon. In general surgery, conditions following skin grafts over extensive burned areas, where contractures are involved, may be definitely helped by the intelligent nurse, who can follow such post-operative cases with such treatment as may be found necessary. The paralysis from disuse which results from a bad septic hand or foot can be helped in no other way. Fractures and sprains also show marked improvement under massage and passive manipulations.

Medical cases also come under this long list. Such cases as anemia, gastrointestinal disturbances, faulty nutrition in infants, and paralysis following lead poisoning respond wonderfully under properly directed exercises and regular massage. In dealing with arthritis and other joint disturbances due to toxic conditions, again massage, in combination with passive and active exercises, is of known

value. Exercises to induce coordination at certain stages of chorea are given with beneficial results, and all patients convalescing from prolonged recumbency could be assisted to lessen the period of convalescence by a correctly directed course of treatment.

We have been considering chiefly the hospital aspect of the corrective or physical therapeutic work. Now let us consider the nurse in her various fields, and discover what an important help the knowledge of this kind would prove to be.

In private nursing the place of the nurse is to assist the busy surgeon or doctor. How much more valuable her service would be if she could knowingly carry on this treatment, which usually requires the services of another person. This person may be a masseuse, or one who has had a broader training along therapeutic lines. This entails added expense to the patient, and it is ofttimes because of this expense not possible; therefore, owing to the lack of knowledge on the part of the nurse, such treatment is abandoned or the case is turned over to the physical therapeutist. It amounts almost to humiliation for a nurse to be obliged to admit any such lack of knowledge in the technicalities of her profession, and yet is not this corrective work as much a branch of her work as the giving of medicines or the relief of pain? Should she not know what exercises would relieve back strain, or how to massage and exercise patients who suffer from chronic constipation, etc.?

Also, we have the problem of the overconfident nurse, who, in order not to display her ignorance when told to do these things, attempts treatment without proper understanding. In this instance the results may be disastrous. Such exercises as are used are given in definite progression, and a knowledge of this progression, and the reason for it, is too important to be disregarded. It is therefore because of such complications as might arise from the wrong application of exercises and massage that a plea for instruction along these lines is here made.

At the present time the nurse is an important social factor in the community. She is identified with almost every branch of public health work, and due to her previous training and experience, is able to cope intelligently with the many problems which daily confront her. Take, for example, a graduate doing district nursing. If this nurse has had during her three years' training a legitimate time allotted for the study of the treatment of disease by physical therapeutics, she will be able, not only to carry on the treatment, if it be simple, under supervision, but from her observations and teaching will be able to recognize conditions which require the care of the orthopedic surgeon or the treatment of a recognized physical therapeutist.

In school nursing we have perhaps the most striking need for the nurse who is fully trained and is familiar with the initial conditions which evidence themselves in the school child. The growing child who wears constantly a faulty waist—that is, one which has most of the clothes and garters pulling and suspended from it, will, because of misdirected and wrongly distributed weight, slump into a poor standing and sitting position, and thereby acquire conditions ranging in severity from the not unusual "faulty posture" to the deforming condition—lateral curvature of the spine. This question of proper clothing is an important factor. The school nurse should be able to direct a change and meet the perhaps already established conditions; but she must first be able to recognize these conditions. To a greater or less degree the nurse in any kind of public health work would be thus able to help, and in many instances, prevent, conditions which otherwise might terminate seriously if not checked at the beginning.

It is not intended to convey the impression by this brief article that the nurse will be able to replace the physical therapeutist, or vice versa. From the nurse is expected a practical and theoretical knowledge of all the branches of nursing work, which makes her the "trained woman." In the treatment of nephritis, for instance, she must be able to prepare a diet which will meet with the caloric needs of the patient, and yet be a diet which will be low in protein and the food elements which are most harmful, thereby saving the demand on the affected part of the system. To do this it is not necessary for her to be a trained dietitian. So, in this corrective work it is not necessary for her to be a physical therapeutist; but physical therapeutics should be incorporated in her training in a limited way, so that she will have a basic knowledge of it, thereby strengthening her foundation of general nursing principles and making the training broader and more inclusive.

Department of Nursing and Social Service of the Washington University of St. Louis

BY JULIAN C. STIMSON, R. N.,

Head of the Department of Nursing and Social Service, Washington University, St. Louis.

For some years a training school for nurses has been conducted by the medical department of Washington University. Members of the faculty of the medical school have composed the advisory committee of the training school, and have made themselves responsible for the education of the nurses. In the spring of 1914 members of this committee of doctors urged a combination of the training school for nurses and the social service department under the title "Department of Nursing and Social Service of Washington University." The social service activities had up to this time been under the direction of the same group of doctors who had composed the training school committee. The headworker of the social service department has been employed by the university on the recommendation of the medical school authorities, who had agreed that her time might be divided between the hospital for adults, in which the Washington University medical school was responsible for patients, and the hospital for children, in which also the medical and surgical service was in the hands of the Washington University medical school. This last hospital, the St. Louis Children's Hospital, agreed to the arrangement, and paid half of the headworker's salary. The nursing in both hospitals was done by the nurses of the Washington University training school. Since the nursing in both hospitals and the social service in both hospitals was under the direction of the heads of the departments of the medical school, and through them under the university, it seemed that a combination of the nursing and social service under one head would work out to the advantage of each branch.

In April of 1914 a vacancy in the position of superintendent of nurses made it appear that this combination under one head could then be made. The headworker of the social service department, who had previously had experience as a superintendent of nurses, was therefore made head of the department of nursing and social service. Then, with unusually efficient assistants in both offices, the details of the amalgamation began slowly to be evolved, and the development of the department progressed steadily.

The situation in April, 1916, after two years of the experiment, is that the university is fully responsible for the

policies of the training school. This responsibility is indirect, because the university delegates its responsibility to the medical school, but the cooperation between those two bodies is so great that it amounts to universal affiliation. In the same way the university is responsible for the education of the nurses, and presents diplomas of graduation to those nurses who are recommended by the medical school. For over a year the requirement for admission to the training school has been graduation from a high school. In a few months it will be graduation from an accredited high school, with presentation of sufficient credits to admit to the college proper. Regular instruction to the nurses is given in carefully outlined and correlated courses by members of the faculty of the medical school, who take these duties with as much seriousness as they do their duties to the medical students. A member of the faculty of the English department of the university is detailed to conduct courses in English for the nurses.

In December, 1914, all the patients and equipment were transferred from the old to the new hospital buildings. These separate institutions are now housed in a very remarkable group of buildings, covering more than a city block and situated ideally on the edge of a very large park. The buildings are all of the same style of architecture, and are constructed of the same material, so that the group presents the appearance of being one large institution instead of three institutions. The Barnes Hospital, the St. Louis Children's Hospital, and the Washington University medical school, with the dispensary under its control, are all under separate and individual management. A very remarkable scheme of cooperation has been worked out which, while presenting many problems, is working for economy and efficiency. There is a central heating and lighting plant under the ownership of the university. The two hospitals buy their heat and light from the central plant. A single kitchen supplies the food for both hospitals and for all the nurses and doctors employed in the separate institutions. The medical school is responsible for all branches of the medical service in all of the departments, and the nursing and social service for both hospitals and the dispensary is in the hands of the department of nursing and social service, which is under the direct control of the medical school and thus of the university. A new nurses' home, which houses about half of the nurses, was built by the university, and the other half are living in a building which is owned by the Barnes Hospital. The latter is called the service building, in which are located the kitchen and dining rooms. All affiliating pupils, post-graduates, probationers, and some of the junior nurses have rooms in this building, but after they become permanent members of the training school they are moved over into the nurses' home. The new home is a modern, six-story, fireproof building, with single rooms for every nurse. Each one is provided with a large wardrobe and running water. On the first floor are reception rooms and one which can be used for classes and dancing. Each floor above the first is provided with a trunk room and a small kitchen. The latter are equipped with stationary laundry tubs, gas stoves, and ample cupboard room. The shelves are used for the dishes and supplies furnished by the training school for community use, and sections of cupboards are given to groups of students for individual use.

Nurses who enter the Washington University training school do not have to go anywhere else for affiliating courses in order to obtain experience in any department required by the state for registration. In the Barnes Hospital they have adult male and female medical and surgical service, including many neurological patients, and also excellent obstetrical and gynecological and operating room experience. All major operative work for the Children's Hospital is done in the operating rooms of the Barnes Hospital. The patients are brought to the surgical pavilion through a tunnel which connects the two buildings. In the Barnes Hospital nurses also have experience in practical dietetics, which includes not only all special diets for both children's and adult's wards, but also those served to the private patients. A special wing of the Barnes Hospital is reserved for private patients, and all nurses have a part of their training in that wing. The patients here may belong to any service. The ward service is with both white and colored patients, but the colored patients are in a separate department.

All the nurses have a minimum of four months' service in the Children's Hospital, but many of them have several months more than the minimum. The four months secures a month in each of the following departments: surgical, including many orthopedic cases; medical, including private cases; infants, where there are always from twenty-five to thirty feeding cases, and usually several babies in the incubator room; and contagious, which has three floors of glass-partitioned rooms, often containing many cases of each kind of four or five different contagious diseases, both free and private cases.

The dispensary averages over 400 cases a day, and includes all branches of service, with such special subdivisions as separate clinics for tuberculosis, diabetes, whooping-cough, stuttering, etc. All pupil nurses have two or three months in the dispensary and a short period in the social service department. As probationers most of them have two weeks with the social workers. This period is meant to familiarize them with the objects of the department and to give them an idea of the kind of homes from which patients come, and the conditions under which they live. In their senior year, as a part of their obstetrical training, the students have a period of visiting nursing under the social service department. All the patients who are delivered by the dispensary out-patient obstetrical department are visited for ten days by a nurse-in-training. The nurse gets her instructions from the doctors through the head nurse of the obstetrical ward of the Barnes Hospital, where for three months she has been having her training in obstetrics. She learns the patients' prenatal and social condition from the record in the social service department which has been prepared by the social worker who is the nurse for prenatal instruction, and before she completes her out-patient visiting her work is inspected by the head of the department of nursing and social service.

In addition to all the regular services there are opportunities in the hydro- and mechanotherapy and the x-ray departments, in the dental clinic, and in the office of the training school.

The instructor of nurses has at her command for the benefit of the nurses a special lecture room in the Children's Hospital, which is equipped with an excellent lantern. She also has excellent practical class rooms in the Barnes Hospital, and any of the laboratories, class rooms, or equipment of the medical school that might be of use to her in her teaching of the nurses is at her disposal. In their study of bacteriology, for instance, the student nurses use the regular laboratory of the medical school for their laboratory work, and in anatomy special demonstrations on cadavers are arranged from the medical school material. The library of the medical school is also open to the nurses, and a special appropriation for

books for the use of the nurses is granted by the library committee. Another opportunity of obtaining books is offered in the record room of the Barnes Hospital, where the librarian of records maintains a fiction and general literature library for the benefit of nurses and all the people connected with the hospital. This library is maintained as a traveling branch of the public library, and books are issued in the regular way. A volunteer social worker twice a week distributes books to patients from this library. A reference library for the use of nurses in connection with their class work is conducted from the training school office. A recent study of how much this small library was being used revealed the fact that in three months 700 issues were made of less than 105 volumes. These books cannot be kept out for more than twenty-four hours.

The problem of a fair proportionment of the expenses of the training school and the cost of nursing service to each institution has not as yet been completely worked out. The first year in the new buildings, with the complicated cooperative system, has been used more or less as an experimental one, from which actual expenses and actual costs could be learned. The arrangement between the three institutions has been that no institution is to profit from any service it renders any other, but the cost of each commodity rendered is to be divided on a pro rata basis. All bills for the food, laundry, rooms, equipment, etc., that have been supplied to the nurses by the Barnes Hospital will be paid by the university, and also all care of sick nurses, whether rendered by the Barnes Hospital or in contagious conditions, by the Children's Hospital. The salaries of such officials of the training school whose services are for the whole school, such as those of the superintendent of nurses, the instructor, the second and third assistants, the instructor of dietetics and the instructor of massage, and the stenographer of the training school office, are paid by the university, which also pays office expenses. The university built the new nurses' home with the understanding that the Barnes and Children's hospitals would pay 5 percent interest on the investment, which is being charged in the form of rent per room. This rent (about $8 a room) has been calculated from the interest on the investment in the building and equipment, and from the current expenses.

After accepting and paying all the bills that belong to the training school proper, the university is in turn rendering bills to the Barnes and the Children's Hospital and to the dispensary for actual nursing service supplied by the training school. The cost of administration and instruction, including office expenses and the expenses of graduating exercises, have been found to average $10 per pupil nurse per month. The cost of uniform equipment has been calculated to be $3 per month; laundry costs $5 per month per nurse, and food has been estimated at $15 a month, but this estimate is probably too low. The total cost of a pupil nurse to any one of the three institutions per month is then estimated to be the sum of these items, plus the room rent ($8 if in the nurses' home, or $5 if in the service building), making a total of either $38 or $41, according to where the nurse lives.

All this may seem very complicated, but an accurate day book in which is recorded the place of service of each nurse, or the place of illness and the place of living, makes a monthly statement for each institution simply a matter of careful bookkeeping. This method of accounting gives a fair apportionment of the cost of such nurses as are not rendering full service—the probationers, for instance. No probationers are sent for duty either to the Children's Hospital or to the dispensary. They cannot be said to be giving a full day's nursing service to the Barnes Hospital, for most of their time is given to instruction; therefore the Barnes Hospital is not charged for their services, but the cost of their instruction is charged up in the account rendered for full nursing service, and any deficit at the end of the year that the university may find between the amounts received from the three institutions for nursing service and the cost of maintaining the training school will be divided between the three institutions on a pro rata basis.

The benefits of the relation between the training school and the university can easily be pointed out. Since the university exists for purely educational purposes, the emphasis in any department connected with it is on the educational side. In an attempt to meet the requirements of the freshman class of the college, standards for admission to the training school have been raised, and all the class work has been developed and outlined so that it is worthy of recognition. The instructor of nurses is a college graduate and a graduate trained nurse especially fitted for her position, and all the doctors who lecture to the nurses are members of the faculty of the medical school. All nurses who complete the three years' course and wish to continue their studies in the university may present credits from the training school, which will be taken into consideration by the university authorities and recognized, where possible, toward a university degree.

It is hoped that in the near future a fee for instruction in the training school for nurses may be charged, as fees are charged in other private educational institutions. It is also hoped that it will be possible to establish a six months' preliminary course outside of the hospital in connection with the university and the medical school. For this course the plan is that young women shall make their own arrangements for room and board, and for six months live like college students. This six months' preliminary course would shorten the later hospital training by six months.

At the present time those young women who enter training in the Washington University training school after having completed a college course are given six months' credit. It is possible to do this if such young women are entered with the fall classes, because in this way they complete the regular class work in the academic year and their credit of six months can come from the summer months of the third year without loss of class work, especially if there has been any time lost for illness that is to be made up.

The objects of combining the nursing and social service under one department are mutual helpfulness, and that correlation and concentration which are the essence of good work. It was thought that an interdependence and mutual understanding would be brought about through similar methods of technic and through aiming at similar goals, and that the result would be better equipment of nurses and social workers, and thus better service. The management of the two departments would be an impossibly difficult task if the head of the department did not have the loyal and untiring help of able assistants in both the training school and the social service department.

Probationers have a two weeks' service in the social service department, which is aimed to give them an insight into the problems of living and working conditions, which are factors in the physical troubles with which

they will later have to deal in their ward work. It also gives them an acquaintance with the methods of the department. The emphasis on social work in the training school curriculum is already attracting to the school young women who wish to take up nursing because of a desire to ultimately engage in social work of some form. Increased interest in the various forms of community and public health nursing is also noticed among the pupils in training.

Because of the very close connection that the head of the department has with the hospitals, opportunities for the staff of the social service department have been greatly increased. These opportunities have included many of the advantages of experience and instruction offered the nurses, and chances for usefulness that might not otherwise have reached the social workers. The head of the department, by virtue of her position as headworker of the social service department, holds many positions in the community on boards of management and committees engaged in matters of social and philanthropic interest, and she has therefore a unique advantage in thus being a connecting link between the community and the allied institutions which she represents. In this capacity she is constantly being called on to make addresses before all kinds of groups on the larger aspects of nursing and its relation to the community, and also on various medical and social problems.

IS THE CORONER'S OFFICE OBSOLETE?

Mr. Test, of the Pennsylvania Hospital, Thinks Hospitals Best Judges as to Causes of Death

That the Philadelphia office of coroner is a relic of the past, kept alive through politics, and that it should be abolished, is the opinion of Daniel D. Test, superintendent of the Pennsylvania Hospital, as expressed in a recent address by Mr. Test to the Philadelphia County Medical Society.

In explanation of the fact that the rule for the reporting of sudden or unexpected deaths is not always observed by the Pennsylvania Hospital, Mr. Test is reported to have said: "As I interpret the law, it is the duty of the hospital to determine the cause of death. In the event there are suspicious circumstances attached, or in the event the cause of death cannot be determined, I feel it is perfectly proper to report the case to the coroner. Rarely is it necessary to do so, because in nearly every case we determine the cause of death and satisfy the health officials."

In an interview following Mr. Test's address Coroner Knight is quoted as saying that the law requires an investigation on the part of the coroner of sudden deaths, and that a quick report to him often leads to the arrest and conviction of persons implicated in the death. He believes that it would not be a good plan to leave the matter of investigation wholly in the hands of the hospital, owing to the fact that doctors are liable to be influenced by relatives of their patients and take too many things for granted. "The coroner," said Dr. Knight, "takes nothing for granted. He investigates."

The S. R. Smith Infirmary at Tompkinsville, N. Y., is hereafter to be known as the Staten Island Hospital, the name having recently been changed because of the misconstruction frequently placed on it by persons who have regarded the institution as a place for the care of the aged and infirm, when, as a matter of fact, it is equipped and operated for general hospital purposes.

DEPARTMENT OF LIFE EXTENSION

Life Extension, Health, and Efficiency

BY THOMAS DARLINGTON, M. D., New York.

Coincident with the world's general progress, much has been done in recent years for relief from those conditions of environment that affect us unfavorably, for prevention of disease and physical suffering, for the promotion of longevity and happier conditions. Such work has made possible the building of the Panama Canal and many other great achievements which could not otherwise have been accomplished.

SOME FUNDAMENTAL CONSIDERATIONS

It is beginning to be understood, and soon will be generally realized, that much effort has been wasted in the past and much efficiency has been lost by lack of attention to industrial hygiene. Matters of this kind have been regarded as philanthropic, and therefore not to be considered in connection with business enterprise. As the business transactions of the world have for their object profit, any proposal is measured by finance. While the inspiration for the betterment of working conditions may have arisen from physicians and philanthropists, true economy has played a large part as the ultimate cause of sanitary reform and will continue to do so. That it pays to safeguard a workman from loss of limb or other accident by covering gears or placing guardrails about pulleys and belts is a conclusion that is obvious. Nevertheless, until recent years only little had been done. Not so obvious, but just as far-reaching in its results, is the safeguarding of employees against disease.

It is axiomatic that efficiency depends on health. It is, therefore, of great commercial importance that workmen be surrounded with proper safeguards, not only for the prevention of accidents, but also for the prevention of sickness, and that everything practicable be done, not only to prevent disease, but also to raise the standard of health to the highest point. The health of any community depends on the health of its individual components. It depends, therefore, on the persons themselves, on those responsible in various degrees for the daily life and work in a community, and on those who are responsible for the making and enforcement of laws.

So the responsibility may be divided under three heads:

1. Personal hygiene, or care by employees of themselves.

2. Care by a company within its inclosure.

3. Care by authorities (town, city, state, and national government) in making and enforcing laws.

While public hygiene can be enforced, personal hygiene is a matter that must largely be the result of education.

PERSONAL HYGIENE

The care of the individual, those things which are largely under his control and which he should do for himself, are: the regulation of his meals—the amount, char-

acter, and mastication of them; the amount and character of drink; hours of rest and sleep; ventilation of rooms; personal cleanliness, for clean bodies and clean clothes lessen the chances of blood poisoning in accident cases; washing of hands before meals; daily washing of feet; proper fitting of shoes; amount and kind of clothing; care of the eye, ear, and nose; brushing of teeth; regularity of habits; the cultivation of cheerfulness, for the mind has much to do with the body and especially with tissue changes and secretions; regularity of work.

The first condition of health is fruitful toil. Work is not a necessary evil—it is our greatest safeguard against disease and advancing old age. The individual should be taught, and definite results are to be obtained from definite conduct. It has frequently been asserted that a large percentage of accidents occurring about plants are due to fatigue. From observation and inquiry it would seem that the greatest number of accidents are due to carelessness, some to ignorance, some to alcoholism, and other cases to a lack of proper guarding of machinery. Still, fatigue must be considered. The determination of physiologists show that constant and rapid motion of a muscle produces fatigue by the accumulation of lactic acid and carbon dioxid within it. It is, however, reasonable to suppose that fatigue is due not alone to accumulation of acid within muscles, but also to a lack of carbohydrates caused by improper feeding, or to excess of alcohol, or to deranged metabolism—due to lack of oxygen, or to loss of sleep, or the condition of the skin, or the amount of fluid taken, or as the result of putrefaction in the intestines and the formation of certain aromatic bodies and absorption of them in the system. If this is true, what a field of effort is opened to us for the study and correction of such conditions; how easily we see that loss of efficiency can be connected with matters of personal hygiene—how great the importance to both employer and employee of education in such matters.

SANITATION BY EMPLOYING COMPANIES

Under the second head come those matters relating to health that should be worked out within the plants. Among these may be mentioned periodical physical examinations of employees; furnishing a wholesome supply of drinking water, with regulation of its temperature and method of distribution; adequate washing facilities; a sufficient number of properly constructed clean, light, and well-ventilated toilets; proper sewage disposal; good ventilation, with prevention of fumes, dust, and smoke, or proper disposition of them; clean floors and yards; proper methods of heating in winter and cooling appliances for heated work places in summer; good lighting; provision for first aid; and possible consideration of lunch and rest rooms. Among questions cognate to these are problems relating to hours of labor and periods of rest. In many plants such matters as these have already been taken up with those in charge. In the building of plants it is well to keep these things in mind, for, if included in construction, their cost would be less than if added later.

I cannot too strongly urge that, when money is available for welfare or sanitary work, it be spent first for the purposes just enumerated, rather than for the building of club houses or reading rooms, or for lectures, playgrounds, recreation centers, planting of trees, flower gardens, or visiting nurses; for, while these are all desirable in themselves and appeal to the general public, they are not by any means of first importance. Nor should the money be expended for the correction of town or city conditions, because these things should be the care of the body politic—the community as a whole. Furthermore, one must keep in mind that work of such character must be limited—that too much paternalism is unwise and against public policy. What these limits are, only the future can decide. At present the first consideration of each company should be the safety and health of the workmen within its plant.

SANITATION UNDER PUBLIC AUTHORITY

This brings us to the third heading—the making and enforcing of sanitary laws by public authorities. A healthy organism can largely adapt itself to its surroundings, whether in the arctic circle or at the equator, but it cannot adapt itself to bad milk from diseased cattle, impure food, polluted water, dirty streets, putrid garbage, fly-breeding manure heaps, mosquitoes, bad drainage, crowded sleeping rooms, foul air, and contagion.

The regulation of such conditions is chargeable, not to employer or employee, but to the city, town, or state as a whole. Such matters are as much the care of the public as are schools, fire, or police, and they should not be left to the haphazard of charity. Nor should they be left entirely to those whose duty it is to enforce the laws. These officials are ofttimes absolutely dependent for their daily bread on the persons over whom they are called on to exercise authority, with the result that the laws are but indifferently administered.

The losses entailed are largely calculable. When we consider the loss in wages, loss of time in school, and cost to the state from lack of promotions, sickness in hospitals, drugs, doctors, nurses, undertakers, the effect on the family from the loss of the father, the wage-earner, and a host of things too numerous to mention here, the economy of hygienic measures becomes apparent. But who shall measure the loss in efficiency of a workman if a member of his family is ill and his mind is not on his work? How much also has this mental abstraction, due to anxiety, to do with accidents?

After long and careful study, I find that the proper standard of health—and, therefore, efficiency—cannot be maintained in the iron and steel and allied industries because of the lack of proper laws and the inadequate enforcement of existing laws by national, state, and local authorities. Enormous sums of money are paid in taxes for which there is no adequate and proper return.

Health departments are never fully equipped. Very few deserve the name, and some are simply a name. In the past, and even today in the majority of places, matters which pertain to public health and to hospitals have been and are largely matters of private charity.

SOME SIGNIFICANT FIGURES

Death rates are falling wherever the mandates of hygiene and sanitary science are obeyed. While in many places much has been accomplished, other places are still in the condition of sanitation prevalent thirty years ago.

A study of causes of death shows that, in general, but 4 percent die from old age, 4 percent more from violence, while 92 percent die from disease. Of this last group, nearly one-half are due to disease of environment—that is, to diseases which are the concern of health authorities, diseases which by proper supervision could be wholly eliminated. There is no necessity for deaths from typhoid fever, tuberculosis, or diseases of like character. They are wholly preventable.

The determination of the health necessities of communities is based principally on the death rates and general inspection. Taking fifteen of the principal towns visited for the institute, excluding the large cities, the death

rates averaged 19 per 1,000—easily double what it should be and at least one-third more than the rate of some cities of larger size. For instance, Minneapolis, with over 300,000 population, has a death rate of 8.63 per 1,000, and even New York and Chicago, with their dense and heterogeneous population, have death rates of only 15.1 and 14.5 per 1,000, respectively.

The basis of sanitary work is registration of vital statistics. In not one state in the Union is there a complete registration of births, and fully one-half of the country has no registration of deaths.

IMPORTANCE OF MILK SUPPLY

Of the matters that need remedying by the authorities, certain things stand out more prominently than others. That which is preeminent—so far as it affects the growth, health, and life of children in the home—is the condition of the milk supply. This is a matter of vital importance. Not alone does it affect children, but it stands as second as a cause of typhoid in adults; and, although the agitation for supplies of clean and wholesome milk has been going on throughout the country for several years, in many places nothing has yet been done. In a number of towns where the industries connected with the institute are located I have had occasion to visit some of the principal sources of milk supply, and have found that they could hardly be worse. In cities advanced in matters pertaining to health it is usual to mark the standing of dairies on a score card on the basis of 100. Using such a card, some of the dairies visited scored 8 or 10, others 2 or 3, and to some I was unable to give a single point.

NEGLECT OF CONTAGIOUS DISEASES

Again, among children it is noticed that the death rates from contagious and communicable diseases are high. It has been shown by records that such diseases are largely spread through the medium of public schools. The approved method of control of such a condition is by a system of medical school inspection and proper quarantine and disinfection, and the reporting of cases by physicians. But such a thing as medical school inspection is almost unknown, except in a few large cities, and even there it is not practiced to its fullest extent, while quarantine and disinfection are largely left to the family physician. In many instances cases of contagious diseases have no physician and are not reported at all, thus giving opportunity for the spread of disease to others. Little or no provision has been made for proper care of contagious disease among adults. Contagious disease hospitals are lacking everywhere. In two places visited it was noticed that school houses costing more than $215,000 each had been erected, but at each place the contagious disease hospital (or, as they properly term it, "the pest house") cost only about $125.

Further study of death rates shows that the mortality from tuberculosis and other diseases of the lungs is high. It takes but little investigation and study to find the principal causes. Among these is foul air. Crowded sleeping rooms are found everywhere. It is conceded by sanitarians that the least possible space for each person in sleeping apartments should be 400 cubic feet, and the air should be changed hourly; yet almost everywhere workmen were found occupying much less space, frequently less than half that amount, with no windows open and no system of ventilation, with beds often continuously occupied by the interchanges of day and night shifts, those working at night taking the place in bed occupied by those that work in the day and conversely. Metabolism—that is, the body processes and chemical changes that take place in the tissues—cannot be properly carried on under such conditions, especially the oxidative processes. So a lack of fresh air and the breathing of expired air in sleeping rooms unfit a man for work. They cause a loss of vigor, lowered vitality, loss of appetite, anemia, and loss of resistance to disease. These crowded and ill-ventilated rooms were frequently found in the back of saloons or above them. Many workmen, in their desire to save, choose to board at such places, because board is furnished at the low rate of $3.50 per week. With the present high cost of living, this appeals strongly to the single laborer, and the saloon makes its profit from the sale of intoxicants. The combination of alcohol and foul air readily accounts for disease.

BETTER MUNICIPAL WATER SUPPLIES ARE NEEDED

In a large percentage of the plants and in towns controlled by the industry the drinking water supplies belong to the companies themselves, and care has been taken to purify and protect such supplies; but in many of the towns visited the town water was found polluted, and in others the water so unattractive by the amount of turbidity due to the mud and silt it contained, especially during the spring freshets, that it was useless even for washing, not to mention drinking purposes. Inasmuch as typhoid, diarrhea, and dysentery are largely spread by polluted water, the necessity for better municipal water supplies is obvious.

Garbage is generally not collected, and fly-breeding stable manure is permitted to be heaped up beside stables and in back alleys throughout the year. Many towns are without sewers, and very few have any system of sewage disposal. In a number of places where there are no sewers, cesspools take their place. These are connected with limestone caverns, and no one knows where the sewage goes. It frequently happens that a neighbor pumps it up as well water. So I repeat, not only conditions surrounding the man when he is at work must be guarded, but also those conditions surrounding him when away from work. Of what avail is the furnishing of wholesome water to the man when at the plant if he must take a polluted supply when he returns to his home.

SUMMARY

Thus I might go on enumerating the various sanitary undertakings resting as a duty on cities, towns, and villages, but the instances I have given are enough to show the necessity for action. As large taxpayers, those who manage and control plants should exercise their prerogative in demanding that public authorities perform their proper functions in promoting the health and happiness of the people.

Summarized, these duties well performed mean pure air, wholesome water, an uncontaminated food supply, and relief from those factors that detract from physical comfort. They mean better work accomplished, and thus economy to employing companies by increased industrial efficiency; they mean decreased loss of time due to preventable illness; they mean decreased death rate from preventable diseases; they mean prevention of the spread of communicable diseases; they mean betterment of living conditions; and, finally, they mean contented workmen, and contentment is greatly to be desired.

William B. Hackenburg was reelected in June to the presidency of the Jewish Hospital Association of Philadelphia for the fortieth consecutive year.

PHILANTHROPY AND THE PUBLIC HEALTH

Conducted by THE NEW YORK ASSOCIATION FOR IMPROVING THE CONDITION OF THE POOR.
BAILEY B. BURRITT, General Director.
WILLIAM H. MATTHEWS, Director,
Department of Family Welfare.
DONALD B. ARMSTRONG, M. D., Director,
Department of Social Welfare.

Please address items of news and inquiries regarding Philanthropy and the Public Health to the New York Association for Improving the Condition of the Poor, 105 East Twenty-second street, New York City.

Mental Clinics and Their Definite Purpose

BY DR. E. H. LEWINSKI-CORWIN

The need of preventive and after-care of persons suffering from mental disorders has been long recognized. On many occasions the need of out-patient clinics devoted exclusively to ambulatory mental cases has been advocated, and in 1913, due to the efforts of the State Charities Aid Association, a law was passed in New York state similar to that of Massachusetts, empowering the state hospital for the insane to establish out-patient departments in the larger centers of population in their respective districts. The advantages of mental clinics, operated as parts of the state hospitals, can be summarized as follows:

1. They contribute toward an early recognition of mental disorders.

2. They take care of convalescent patients discharged from the state hospitals; they make possible earlier discharges from the hospitals and thus relieve the distressingly crowded conditions; and they also make possible the paroling of a large number of patients. Hitherto paroled patients have been outside the control of hospitals.

3. By making the out-patient departments integral parts of the state hospitals, continuous care and treatment of certain types of cases is made possible at a much lessened cost to the state.

4. The visiting physicians and nurses and social workers of the clinic can straighten out many conditions predisposing to the loss of mental balance, and bring together a great many facts with reference to the environment of the patients, which might afford a better understanding of one of the causes of mental disturbance.

The following ten of the fourteen state hospitals of New York have taken advantage of the law of 1913 and established out-patient clinics:

1. The Rochester State Hospital maintains one out-patient clinic at the hospital and one field agent.

2. Manhattan and Central Islip has one after-care agent. Physicians from these hospitals conduct one clinic at the Cornell University Medical College and one at St. Joseph's Hospital in Yonkers.

3. The St. Lawrence State Hospital at Ogdensburg has a dispensary at the hospital and recently opened one at Malone and one at Watertown. The superintendent sends a physician to these towns once every four or five weeks. Notifications regarding the time when the clinic is held and its purposes are published in the local press some time before the clinic, and the same method of procedure is true of every other clinic which is open only at certain times and which caters to a very large section of the country.

4. The Hudson River State Hospital at Poughkeepsie has a dispensary at the Board of Health building. A field agent is employed for the work.

5. The Buffalo State Hospital has opened a clinic at the hospital and has a field agent.

6. The Long Island State Hospital in Flatbush has one dispensary at the institution itself and one at the Long Island College Hospital.

7, 8. The Long Island and Kings Park State Hospitals maintain jointly a clinic at the Williamsburg Hospital, which is situated in the crowded section of Brooklyn.

9. Gowanda State Hospital has a field worker, and maintains a clinic at Jamestown in connection with the Women's Christian Association Hospital and another in Welcome Hall at Buffalo.

10. The Mohansic State Hospital holds a clinic in the rooms of the Associated Charities in Peekskill.

To summarize, ten of the fourteen state hospitals have one or more mental dispensaries. In all, there are now thirteen dispensaries and eleven of them have field workers. It should be remembered, however, that two of the state hospitals are devoted to the care of the criminal insane, and it is hardly possible that they could establish out-patient clinics.

The analysis of the cases attended at the various clinics in the state shows that the clinics reach the desired class of patients and are being availed of freely. It is important to bring this matter to the attention of physicians, that they may avail themselves of the opportunities which these clinics offer to the mentally unbalanced.

The Committee on Mental Hygiene of the State Charities Aid Association, which is in direct touch with the work, feels that there are several needs which should be met at the present stage of the development of the mental out-patient clinic system. These are as follows:

1. The need of official direction and responsibility for the work of the various dispensaries.

2. The need of uniform records and of regular and adequate reports by the superintendents of the hospitals to the State Hospital Commission.

3. The need of coordinating the activities of the clinics into an effective system.

4. The need of establishing and maintaining high and uniform medical standards in all of the clinics.

5. The need of establishing a division of preventive and after-care in the State Hospital Commission, to be directed by a physician especially trained in this kind of work.

Nutritional Guidance

BY FRANK A. MANNY,

Special investigator, Bureau Welfare of School Children, New York Association for Improving the Condition of the Poor.

The time when we come to conscious responsibility for anything that we have to do is always interesting and troublesome. Self-support and family support were subject to chance and immediate pressure for ages before they were accepted consciously and made a matter of program. It is a long step from the period when this was accomplished to our present-time budgets and dietaries, but the responsibility for occupation led inevitably, as soon as margin enough was available, to a closer inspection of nutrition and a recognition that it must be planned for.

The term nutrition is used here in a broad sense as the most convenient word by means of which to express an estimate of health and bodily welfare. Naturally one's first thought in this connection is of food, and rightly so, for it is food influenced and reconstructed by air, exercise, sleep, occupations, interests, and other factors which we are considering, at least vaguely, when we refer to the state of nutrition.

Newspapers and magazines are witness to the increasing public interest in the matter. Like every other "newness," this stage of planning has had its amusing and distressing aspects. It was too promising a field to fail to attract the less well balanced—for instance, recall Lowell's

> "Salt of the earth,
> In what queer guys
> Thou'rt fond of crystalizing!"

Naturally, too, the overintrospective have seen in the

control of feeding and other health matters a chance for a worthy subject over which to worry. Both crankiness and worry have often been supposed to be caused by this acceptance of responsibility rather than seen to have been waiting in readiness for any available peg on which to hang themselves. It is only fair to remember, too, that some of the fads which have been most ridiculed in the past are matters of course today and others of them now receive respectful attention. But to take up an old activity in order to think about it, and to do this skillfully and gracefully at the start is unusual. We have been slow to learn that some less desirable food may be more serviceable for us than too great concern for better, and that meal time is not the best occasion for food analysis.

The societies responsible for giving relief on a large scale realized in time their opportunity, and many of them have employed expert dietitians, who have come to wield a wide influence. A university investigator who had occasion last year to make studies among the members of several nationalities stated that it was difficult to find families on the relief level who did not reflect very definitely the food standards of one or another of the leading social organizations. In one of the schools the physician and nurse were making inquiries to show the breakfast problem among the pupils. In answer to the question, "What did you have for breakfast?" from a large number came the reply, "Coffee and bread," "Coffee and bread," with an occasional "Bread and tea," until the monotony was relieved by "Cocoa and cereal." The two inquirers looked at each other in surprise; then the nurse asked the child's name and commented, "Oh, that's one of the A. I. C. P. families! I wish those above the relief line could have the same instruction."

Just what proportion of the population of such a city as New York is receiving relief it would be hard to estimate. The total amount for a year must be enormous. There are not only the large societies wholly devoted to the work, but from hospitals, churches, and schools there is, especially during the winter, a stream of service which, judged by what can be seen, must be in its entirety a very large item in the total of the city's expenditure for living. This takes no account of the great quantities given direct from family to family.

Much of this giving is, no doubt, less wisely directed than is desirable. In one of the schools during the winter hundreds of pupils were fed free of cost largely from funds contributed by the teachers. The chief item in the report rendered was for coffee for the children.

Despite these facts and the studies of such men as Chapin and Streightoff, who find an $800 minimum necessary for the typical family of five to avoid overcrowding and underfeeding, there are many otherwise well-informed persons who insist that the economic factor is of minor importance in dealing with the city's nutrition problem. A social worker, speaking of a family, said, "There is no reason why there should be any undernourishment there, with $50 a month income and only seven to feed." A few questions and suggestions brought from her the admission, "To be sure, I could not live on that amount with no one but myself to consider."

A somewhat extended study of the defective nutrition situation shows four leading factors to be taken into account—poverty with neglect and ignorance, disease, improper and badly prepared food, and defective general hygienic conditions. There are hundreds of social organizations which in various ways are seeking to meet these defects by what may be called nutritional guidance. The part that the school can play is an interesting possibility, for it can be of direct assistance in totally independent families as well as in those less fortunately placed. The situation must be seen as a whole and its various needs be met. Buying, for instance, may be as important as cooking, and the teaching of the latter to the older girls in a school does not meet the need in the homes, indicated by the fact that the family marketing is found in many neighborhoods to be done largely by the little girls in the primary classes. It is possible that the collective buying and the resulting neighborhood stores forced by economic considerations on the relief organizations may prove to be among their most significant educational developments. The school luncheon, intended at first to relieve distress, has thus far been successfully making its way in demonstrating how much can be accomplished in feeding by bringing into cooperation the thousands of pennies usually spent to little profit. The standards set serve, furthermore, to make the total expenditure for the year a positive factor in securing and maintaining better food conditions in the city. When, however, this agency comes to be used as an educational force in homes and neighborhoods, its increased service can scarcely be estimated.

The Bureau of the Welfare of School Children of the Association for Improving the Condition of the Poor, in cooperation with the Bureau of Child Hygiene in the New York city Department of Health, is conducting an inquiry into the subject of defective nutrition. The nutrition scale developed in Dunfermline, Scotland, in the work of the Carnegie Trust has been put into use by the medical inspectors of the city. The state of nutrition of each child examined is passed on and indicated in one of four groups. The result has been to bring under consideration a much larger number of children and to differentiate them more specifically with reference to the care needed.

A number of other cities are watching this development with interest, and several are planning to make use of the scale. There is need of a much more definite scheme of diagnosis that has yet been worked out, and it is hoped that this may take form in connection with a clinic especially devoted to defective nutrition cases. The open-air classes of the schools could well be used as observation stations for members of special groups, as the undernourished and the cardiacs. In addition to these classes there is need of summer and all-the-year country stations for more adequate treatment. This summer the A. I. C. P., in cooperation with the New York *Globe*, will conduct an experimental camp in which 100 boys suffering from defective nutrition will be cared for and made the basis of a special study.

Miss Electa Van Eman, formerly president of the Los Angeles County (Cal.) Nurses' Association, was elected president of the California State Nurses' Association at the annual meeting recently held at San Jose. Other officers elected were: Miss Lillian White, Oakland, first vice-president; Miss Groth, San Jose, second vice-president; Miss Saunders, San Francisco, treasurer; Mrs. Amos Taylor, San Francisco, secretary. Among the papers read at the meeting were the following: "Training the Selected Student Nurse in Mental Cases," by Miss Mary Sweeney, R. N., San Francisco; "Treatment and Nursing of Mental Cases," by Dr. Leonard Stocking, of the Agnew State Hospital; "Cooperation in Nursing Between General and State Hospitals," by Dr. R. G. Brodrick, superintendent of the San Francisco Hospital; "The Nurse as a Social Worker," by Miss Marie Horgensen, R. N., San Francisco; "The High School Girl in Relation to Nursing," by Miss Minnie Sullivan, R. N., Los Angeles; "The Influence of the Graduate Nurse on the Pupil Nurse," by Miss White, Oakland; and "The Personal Side of the Training School," by Miss Florence Ritchie, R. N., Los Angeles.

SOCIAL HYGIENE
VENEREAL DISEASES

Conducted by WILLIAM F. SNOW, M. D.,
General Secretary, The American Social Hygiene Association.

Please address items of news and inquiries regarding Social Hygiene to the editor of this department, 105 West Fortieth street, New York City.

The Problem of Venereal Disease in Public Health Nursing

BY THE NURSES OF THE INSTRUCTIVE VISITING NURSE ASSOCIATION OF BALTIMORE

In order that we may have a clear and intelligent view of the difficulties confronting the public health nurse in dealing with venereal diseases, let us first have a precise understanding of just what is meant by "venereal diseases." Webster defines the term "venereal," in its medical aspect, as "arising from sexual intercourse." From this it can well be understood that in the lay mind, and, unfortunately, in many professional minds as well, any condition with which we associate the term "venereal" immediately arouses the suspicion of unlawful or illicit intercourse, and stigmatizes the patient as guilty of venery. Medically, it is a well-established fact that the so-called venereal diseases may be, and frequently are, innocently acquired, and to treat every case of gonorrhea, syphilis, or chancroid as the direct result of licentiousness will frequently result in unhappiness and the suffering of the innocent.

We often fail to distinguish between marital, extramarital, and innocent infection, and consequently the victim is often shunned, despised, and treated as a physical and moral leper. Syphilis, gonorrhea, and chancroid are well recognized germ diseases, the organisms of which have been isolated and are easily distinguished. They are communicable diseases, and, while transmission takes place ordinarily through the genitals, extragenital infections are not infrequent. This is particularly true of syphilis. As far as the treatment and nursing of the diseases are concerned, it makes little or no difference just how the disease has been acquired, but to preserve the integrity of the family and prevent disruption calls for the exrecise of tact and mature judgment.

While gonorrhea is essentially and primarily a disease of the mucous membranes of the genital tract, infections of the rectum and eye are frequent. It must also be remembered that the gonococcus, the germ of the disease, is highly contagious and readily communicable, not only directly, but often through an intermediary host; that all gonorrhea is not the result of intercourse, but may be due to infections through the handling of infected bed linen, towels, or anything which may have been in contact with the infection. The female is especially liable to these accidental or innocent infections, and one should hesitate before accusing another of infidelity or questioning the chastity of a patient. In young female children this condition is quite common, and, while many cases of gonorrhea in the infant are recorded as the result of attempted rape, most of these gonorrheal infections in children are accidental ones. If it does occur innocently in children, there is no adequate reason why it may not so occur in adults.

Considering the alarming statistics of the frequency of gonorrhea in the male, the peculiar mental attitude of the vast majority of men as to the harmlessness of the disease, and the now well-established fact that gonorrhea remains incurable in a large percentage of infections, it can easily be understood why marital infections are so common. These infections, with the consequent later complications of endometritis, salpingitis, or peritonitis, form one of the unhappiest and most difficult of nursing problems. The unsuspecting wife rarely surmises the source of her condition, and, under the masked diagnosis of appendicitis, she goes through her martyrdom, little realizing that her disease is directly attributable to an uncured gonorrhea in the man whom she has promised to love, honor, and obey. Any gynecologist will corroborate the statement that a vast number of abdominal operations are necessitated by gonorrheal infections.

Marital infections of syphilis are fortunately not as common as gonorrheal infections. This may be due to the fact that during the infective stage of syphilis there are often ocular and easily recognizable evidences of the disease. The infective stage of gonorrhea may persist for months and even years, and there is no way of recognizing the disease except by a rigid examination.

In a general way, it might be said that gonorrhea is a communicable disease from its earliest symptoms until its complete cure, which can be determined only after a rigid microscopic examination. This is well illustrated in the following case:

G. and R. C., aged respectively 2 and 4 years, were referred to the Instructive Visiting Nurse Association by the Federated Charities, and said to be suffering from a "discharge." The children were taken by the nurse to the Johns Hopkins dispensary and a diagnosis of gonorrheal vaginitis was made. With daily care in the home and three visits a week to the dispensary, the case was carried from January 26, 1915, until January 19, 1916, when the children were discharged after three negative smears. During this time the children were not allowed to visit, or to attend school or kindergarten. Following their discharge they went to visit some cousins in the suburbs. Four days following their visit of three hours the two little cousins (girls) were reported infected.

In a recent article by Dr. Snow, of the American Social Hygiene Association, he brings out the fact that in two large clinics in New York only 9.7 and 9.4 percent of the cases of gonorrhea were discharged as cured. This means in substance that over 90 percent of the cases remain gonococcus carriers and actively contagious. Equally unsatisfactory results have been found in the treatment of syphilis.

Syphilis is communicable through the discharge from a syphilitic sore, which is usually visible. The syphilitic parent, however, reproduces a syphilitic child, and this forms an important economic factor in the community; for sooner or later the syphilitic child becomes a dependent, and provision must be made for its sustenance, education, and care outside the usual channels of organized charity.

The lack of hospital facilities for the treatment of these diseases must be considered from the standpoint of both hospital and patient. Strange as it may appear to the uninitiated, it is nevertheless true that venereal patients are not received into hospitals unless suffering from some intercurrent disease or requiring an operation. An investigation now being conducted in New York city has shown that of thirty general hospitals only ten receive patients of recognized cases of syphilis in actively infectious stages; but, once admitted on some other diagnosis, twenty-seven

give care and treatment, although only seventeen provide the treatment of a syphilologist. Only nine receive patients (adults) with gonorrheal infections needing hospital treatment, and two of this number specify that only surgical cases are accepted. Thirteen of the thirty will not receive medical cases with known complications of syphilis or gonorrhea.

Venereal cases are not accepted when most amenable to treatment, and when proper treatment is most urgently needed. A patient applying says in substance: "I am poor, unable to meet the expense of proper treatment, have no facilities, and I am unable to purchase anything but the bare necessities of life." To which the hospital replies in substance: "We are sorry, but wait until your gonorrhea gives you peritonitis, or salpingitis, or cystitis, or until your syphilis totally incapacitates you by affecting the spine, the brain, or the bones, then, but not until then, can we do anything for you. We are truly and sincerely sorry for you, but you know a few of the victims of these diseases escape these serious complications, and maybe you will be one of the fortunate ones, and after all will not require hospital treatment. But if you are one of the great majority and do get peritonitis or salpingitis, and require an abdominal operation, which will lessen your economic value to the community, come to our gynecological ward and we will operate, or come to our urological surgeon and he will do the latest approved prostatic operation. Or if your syphilis terminates in locomotor ataxia, brain tumor, caries of the bone, or valvular heart disease, or paresis, then come to us and we will try a new method of treatment, with which we sometimes get favorable results." This state of affairs is unfortunate, but unfortunately true.

In defense of the hospital attitude, we must remember these are communicable diseases, and not alone must the greatest care be exercised in handling clothing, kitchen utensils, urinals, and whatever may come in contact with the patient, but it requires a separate, isolated building, with a separate corps of nurses and equipment. Our hospitals are not adapted to these conditions, and consequently, on the theory of "the greatest good for the greatest number," these cases must be refused admission.

Until these diseases are considered in their true light as highly communicable diseases, and, as such, reportable, progress looking toward their eradication will be slow. We campaign against tuberculosis, urge isolation and strict quarantine, and enforce penalties on physicians and health officers failing to report the communicable diseases—scarlet fever, diphtheria, measles, etc.—but we sit idly by and allow the grim monsters, syphilis and gonorrhea, to have full sway. As appalling and terrifying as are tuberculosis and the exanthematous diseases, they fade into insignificance in the physical, social, and economic damage they do when paralleled with syphilis and gonorrhea.

Public health nurses have long been alive to the dangers of these diseases and the inadequate care, even lack of care, afforded them, but it seems very difficult to arouse the physicians, hospitals, boards of health, and charities, and even the public itself, to the need for places in which to treat them. Propaganda in this direction has had very little weight, for it is usually felt that a person who gets up to talk social hygiene is a "queer one," indelicate and bold, and he or she is usually scoffed at. As long as we enshroud these diseases in mystery and hide their true character with deceptive diagnoses, so long will they be rampant, a moral menace, an economic drain.

Jane Addams, in a recent article, says: "In twenty months over 600 children passed through the children's ward for venereal diseases in Chicago. All but twenty-nine of these children were under 10 years of age, and doubtless a number of them had been victims of that wretched tradition that a man afflicted with this incurable disease might cure himself at the expense of innocence. Crusades against other infectious diseases, such as smallpox and cholera, imply well-considered precautions dependent on wide-spread education and an aroused public opinion. To establish such education, and to arouse the public in regard to the present menace, apparently presents insuperable difficulties. Many newspapers, so ready to deal with all other forms of vice and misery, never allow these evils to be mentioned in their columns, except in the advertisement of quack medicine. The clergy, unlike the founder of the Christian religion and the early apostles, seldom preach against the sin of which these contagions are an inevitable consequence. The physicians, bound by a rigorous medical etiquette, tell nothing of the prevalence of these maladies, using a confusing nomenclature in the hospitals, and write only contributory causes on the very death certificates of the victims."

While we have no definite statistics regarding venereal diseases in children in Baltimore, the public health nurses daily face a similar situation in dealing with these infections in children.

Since the recovery of these diseases is largely dependent on eternal vigilance, constant cleanliness, nutritious food, and proper medical supervision, the problem of caring for these children in their homes is a most difficult one. Congested housing, low wages, and limited mentality tend to make the recovery of these little ones almost hopeless. The drugs necessary for the treatment of venereal diseases also play an important role from an economic standpoint, as they are expensive and far beyond the means of most of our patients.

The tendency to chronicity and the subsequent demoralization is well illustrated by the following cases:

The family of S. consists of the husband, wife, and six children—three boys and three girls. The man was employed as a baster in a tailoring establishment; they were buying their home and living in moderate comfort. In February, 1912, the three girls, aged respectively 9, 8, and 3 years, were referred to the Instructive Visiting Nurse Association by the Johns Hopkins social service department as suffering with gonorrheal vaginitis. The source of the infection was not determined, and the man and woman were both free from the disease. The treatment of these children covered a period of nearly four years, and during this time an almost complete degeneration of the family took place. The fact that the children had to be cared for in the home entailed so much expense in the form of extra beds, bedding, underwear, laundry, drugs, and nursing appliances, that the Benevolent Society had to be called in to give assistance and the family soon succumbed to "being helped." The woman lost her initiative, and even in trivial matters, instead of putting her shoulder to the wheel, she spent the greater part of her time going from the office of one agency to the other, neglecting her home and children.

With the daily treatment in the home by the visiting nurse, in addition to three visits a week to the dispensary, the disease persisted unabated for a year. The trouble was thought to be reinfection brought about by the congested living, and a conference of the agencies interested in the family was called. It was decided to place the children out in separate homes under strict supervision. Three very desirable homes were found where there were no other children, and the plan given a four months' trial, but,

while the general physical condition of the children improved somewhat, the disease showed little or no improvement.

The only recompense derived from this expensive experiment was the fact that the house was thoroughly cleaned in the meantime. Prior to the advent of this infection this had been an independent, self-supporting family, but during the four years' treatment of the girls every member of the family came under the care of the visiting nurse or the social service department. The father was operated on for an eye condition; the mother was twice admitted to the hospital, once for a growth of the uterus and at another time for a curetment, and was also treated in the eye clinic and in the neurological clinic. The oldest boy had to be placed in a sheltering home for truancy, the second youngest admitted to a hospital for gonorrheal ophthalmia, and the youngest for a fractured humerus, an accident that occurred while the mother was at the office of the milk and ice fund. This extraordinary expenditure of money, time, and energy, loss of time at school to the children, and the irreparable damage done this family could have been averted had the proper hospital facilities been available for the treatment of these children.

It may be Utopian, but we do look forward to the time when we shall treat venereal diseases as we do other communicable diseases—namely, by registration, the providing of adequate hospital facilities for the isolation and treatment of those who are either unable or unwilling to protect themselves and others from the contagion, and the enactment of legislation providing for the enforcement of laws looking toward the control and ultimate eradication of this preventable scourge of civilization.

ACCIDENTS AND IMMIGRANT WORKMEN

One Industrial Corporation Requires Foremen to Assume Responsibility for Untrained Men

An interesting innovation is in operation at the Amoskeag Manufacturing Company plant, Amoskeag, N. H., to reduce accidents at especially hazardous work. The overseer or foreman is required to fill in, sign, and file with the employment department a certificate stating that he personally provided a suitable and safe place in which to work, inspected the machinery and apparatus to be used, and found them safe and suitable for the work in hand, explained the company's rules and regulations for employees engaged in such work, gave express orders never to clean gears, belts, or moving parts of machines while in motion, and acquainted the fellow-workman selected to teach the new employee with the latter's inexperience and instructed him to point out the dangers incident to such work. Special care is taken to give such instruction in the new employee's own language—if necessary through an interpreter, whose name must be given. Such fellow-workman is also required to fill in, sign, and file a somewhat similar statement as to his own personal responsibility. These certificates are filed with each workman's employment record. It is claimed that the personal responsibility thus placed on the overseer has reduced the number of accidents.

Dr. Geo. E. Hyde assumed the superintendency of the State Mental Hospital at Provo, Utah, June 1, succeeding Dr. D. H. Calder, resigned. Dr. Calder will take a vacation of several months in California, and it is reported that on his return he will establish himself in Salt Lake City as a specialist in mental and nervous diseases.

DEPARTMENT OF DIETETICS

Conducted by MISS LULU GRAVES,
Dietitian of Lakeside Hospital, Cleveland, Ohio.

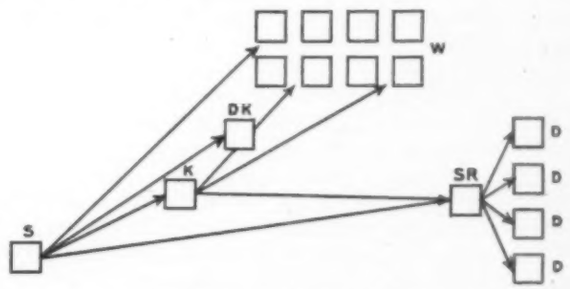
Please address items of news and inquiries regarding Department of Dietetics to the editor of this department, Lakeside Hospital, Cleveland, Ohio.

The Preparation and Service of Diets in the Massachusetts General Hospital

BY RENA S. ECKMAN, Dietitian.

Although each hospital has its own dietary problems peculiar to its needs, and depending on the topography of the institution as well as on other basal principles of nutrition and care, the description of how one establishment has planned the feeding system may be of interest to those whose plans are still in the formative stage.

In the first place, there is a definite interrelation connecting store, kitchens, and wards. A diagram will represent this relation graphically:



S, store; K, kitchen; DK, diet kitchen; W, wards; SR, serving room; DDDD, dining rooms for men help, women help, officers, and nurses. The line from the store to the wards and to the serving room denotes butter, eggs, sugar, and other similar articles which may with advantage be sent directly.

It is evident that by far the greater quantity of supplies must first enter the kitchen as raw material and their products be sent to the respective destinations at meal times. Each ward has a set of containers by which the meals are carried. One large box holds all of these containers. The wards are widely separated, but subways and tray elevators bring the food at the proper time. All food supplies that can be handled by the general kitchen are sent at one time. A smaller kitchen, arranged for the purpose, takes care of the extra work done for the patients, and also serves as a practice field for pupil nurses and pupil dietitians.

Each ward has a steam table in which to transfer the food on its arrival from the general kitchen. As soon as reheated, or as soon as practical, the house diets are served to the patients. A few minutes later the extra diet preparations arrive from the diet kitchen. It is planned to deliver them in hot boxes in order that immediate service may follow. A heated trunk was devised for this purpose.

The walls, top, and bottom were built with an air space 1½ inches between inside and outside surfaces. Two heaters were constructed of Russia iron, packed with asbestos. These heaters are put under the baker of the gas range, and, when hot, are placed in the bottom of the food trunk. In the food trunk are placed smaller covered boxes, one for each ward, properly labeled. Each small box is divided into three parts to accommodate different orders of vegetables or meat. When all of the individual ward boxes are filled, they are put into the heated trunk and carried by the porters through the subways to the food elevators. A box is quickly taken out and elevated to the ward kitchen. It is hot when it arrives, and is at once transferred to the patient's tray and served. The porter goes from one ward to another until all food is delivered. This method has proved efficacious so far as delivering hot food to the ward is concerned.

But there is still another condition to be considered: From day to day a number of weighed or specially prepared diets are ordered; these diets must not be subjected to risks of being spilled or mixed with any other food orders, so they are planned to arrive in the wards last of all. We have found it practicable to use one box for each weighed diet. It is built of such depth as to accommodate six fairly deep cups or jars, which will contain the average portions of vegetable or other food which is served. Many of these weighed diets have been diabetic. Often they are low protein or salt-poor diets. Occasionally they are obesity diets or low purin. For diabetes or other metabolic conditions the prescription for the diet must first reach the diet kitchen. Next the calculation must be made to fulfill not only the food requirement, but also to represent a suitable menu and, if possible, please the patient for whom it is intended.

The diet has been made to serve the twofold purpose of treating the patient's condition and also instructing him, for, in addition to his tray, he receives on it not only a list of the foods to which he is entitled, but also the weight or measure of each article is indicated. The patients often become very intelligent in studying the menus, and are quick to notice if an omission occurs, or if the food served does not correspond to the menu. In the so-called "starvation treatment of diabetes" we have often had as many as fifteen weighed diets daily for this disease alone, and this number has kept up for months. Two men who had been patients for an extended time became so expert that, with some help from the dietitian and Edwin A. Locke's book, they were able to plan their own menus and thereby save somewhat the time of the diet kitchen workers.

Last, but not least, of the special diet work we have found the greatest success in sending the diet kitchen nurses who have prepared the food, over to the ward to serve it. The weighed diets have not been confined to one or two wards, although by far the greater number have been in the medical service. Some have been for private patients and a few have been surgical cases. Many interesting, though laborious, proceedings have been brought to bear in arranging metabolism trays with the view to keeping the patient happy and contented while his treatment is carried on by the physicians.

The vigorous semistarvation which the patients undergo, some of them so young, enlists the sympathy of nurse, doctor, and dietitian, and stimulate great effort to provide bulk for the inner man, if not satisfaction. One of the first things to be used to partly appease the longing for bread was a mixture of bran and egg, agar-agar, salt, and saccharin. To offer these coarse "hay biscuit," as they have sometimes been called, to the patient before he has become very hungry is a mistake. But when he craves food and cannot be satisfied, these bran cakes help enormously and may not be omitted ever afterward without a vigorous protest from the patient. While the orders for protein, fat, and carbohydrate remain below 50, 100, and 150 grams, respectively, six to twelve small cakes may be given in a day. When more fat is allowed, cream, either 40 percent or 60 percent fat, is useful in many ways. After reserving a small portion of the day's allowance of cream for coffee or tea, the remainder may be frozen as ice cream, or combined with eggs and made into desserts, or served with the vegetables. So many excellent recipes have been compiled and appear in cook books designed for hospital or nurses' use, that only the unusual requirement of weighed diets need rules for combinations. Most of our recipes have been worked out for individual needs and then are found to be of subsequent use for other cases. Every pupil dietitian, diet kitchen nurse, medical house physician, and even the patients themselves, contribute more or less to the repertoire of useful formulas.

It frequently happens that a diabetic patient does not like vegetables, and perhaps can be induced to eat only one or two varieties. In one case a man relished absolutely not one single vegetable. So far, as long as such patients remain in the hospital, we have been able to give a certain amount of vegetables by mashing and forcing through a strainer and incorporating a mixture of seasoned meat broth or consomme with the strained vegetable.

The dietary rules of orthodox Jews have proved a real difficulty in the hospital treatment of diabetes, and, if they do not speak English or cannot make themselves understood, they will totally frustrate the benefits of hospital treatment because of their inability to break faith with the ritualistic demands of their religion. One patient, the wife of a rabbi, was seemingly obstinate to every tray of food set before her. By conversing with her through an interpreter, it was learned that the bran cakes contained butter, which fact made it impossible for her to eat them within six hours of a meal containing meat. If lard were substituted, she would not dare eat them at all. If chicken fat were used in place of either, they could be taken with meat, but not if cream appeared on the tray. However, if olive oil were used, then they could be taken either with milk or with meat. The woman could not say why this rule was to be followed. But a talk one day on the dietary rules and customs of the orthodox Jews given by a rabbi suggested an explanation, although he said that some of the customs had been so long in vogue that it could not be said with certainty to what source they owed their authority. "Thou shalt not seethe a kid in its mother's milk" was thought to be the prohibiting law against the use of milk and meat within six hours of each other, it being considered the essence of cruelty to do such an act, and the Jew is very humane. To even accidentally spill milk over meat requires the destruction of the latter viand. From this it can readily be seen that the wrong combination of foods on the tray of an orthodox Jew makes it impossible to benefit the patient to either our or his satisfaction.

The diet kitchen force, by their cooperation with the physicians, have had the pleasure of helping patients over other difficulties while treating them for diabetes. Gastric and duodenal ulcers, old fractures that refused to heal, carbuncles, septic fingers and toes—many such conditions have cleared up and others have improved.

Below are given some recipes, most of which are used chiefly in the diet kitchen:

BRAN AND AGAR-AGAR CAKES FOR DIEBETICS

2 cups washed bran.
½ grain saccharin dissolved in ½ teaspoon cold water.
2 eggs.
10 grams agar-agar.
4 ounces water.
¼ teaspoonful salt.

Tie bran in cheesecloth and soak one hour. Wash by squeezing water through and through. Change water until it is clear. Wring dry. Heat agar-agar with water until nearly boiling. Stir while heating until smooth. Add washed bran and dissolved saccharin and mix well. Break the eggs and add without beating and stir into the mixture. Divide into 24 small cakes, shape with knife and tablespoon, and bake on a well-greased baking sheet. Considering that the bran is washed free from digestible carbohydrate and is itself indigestible, the only food value lies in the two eggs. Hence 12 cakes equal 1 egg.

BRAN AND LYSTER MUFFINS

1 ounce (30 grams) lyster flour.
½ ounce (15 grams) melted fat.
1 ounce (2 tablespoons) 40-percent cream.
1 cup washed bran.
1 teaspoon baking powder.
1 tablespoon melted butter (15 grams).
2 eggs.
¼ teaspoon salt.

Wash bran as in preceding recipe. Mix the washed bran, cream, egg yolks, and butter. Mix baking powder and lyster flour together and add to first mixture. Whip egg whites very stiff and mix in lightly. Divide in six portions and bake in muffin tins. One muffin equals 1 egg. Casoid flour or Soja meal may be substituted for the lyster flour.

ICE CREAM MIXTURES FOR DIABETICS

Ice Cream No. 1

40-percent cream, 3 ounces (90 cc.).
Water, 1 ounce.
Egg white, 1.
Vanilla, ¼ teaspoon.
Saccharin, ½ grain.
Mix and freeze.

Ice Cream No. 2

40-percent cream, 1 ounce.
Egg (whole), 1.
Cocoa, ½ tablespoon (3½ grams).
Hot water, 1 ounce.
Saccharin, ½ grain.

Mix cocoa with hot water, add cream, beaten egg, and dissolved saccharin. Chill and freeze.

Ice Cream No. 3.

40-percent cream, 2 ounces.
Egg (whole), 1.
Coffee, 1 ounce.
Saccharin, ¾ grain.
Beat egg, mix ingredients, and freeze.

Ice Cream No. 4

40-percent cream, 2 ounces.
Saccharin, ½ grain.
Lemon juice, 4 drops.
Water, 1 ounce.
Mix and freeze.

LEMON JELLY FOR DIABETICS

Gelatin, 2½ grams.
Lemon juice, 20 c.c.
Boiling water, 90 c.c.
Saccharin, ¾ grain.
Cold water, 30 c.c.

Soak gelatin in cold water fifteen minutes. Add boiling water, dissolved saccharin, and lemon juice. Stir well and strain through cheesecloth. Pour into mold and chill. May be served with whipped cream.

Food value: Protein, 2 grams; fat, trace; carbohydrate, 2 grams; total calories, 18.

LOW-PRETEIN MUFFINS

25 grams pastry flour.
100 grams arrowroot starch or potato flour.
50 grams molasses (2 tablespoons).
25 grams salt-free butter, crisco, or lard.
2 teaspoons baking powder.
Water to make a stiff batter.

Mix and sift dry ingredients. Add molasses, water, and melted fat. Divide evenly and bake in six muffin tins.

Wheat Flour

BY G. L. TELLER, M. S., Chicago, Ill.

[Continued from the June issue.]

GRANULATION AND COLOR

In a general way, the origin of flour, whether from soft or from hard wheat, may be determined by its feel in the hand. Flour from soft wheat feels soft and pasty; flour from hard wheat feels loose and granular. It is the pride of some millers that they make a flour which is of even granulation and having a granulation of some degree of coarseness as compared with that of flours from soft wheat. Bakers prize a flour because it has a lively feel, as they express it—that is, when they close their hand on a quantity of flour, it scatters freely in all directions instead of remaining there like a soft putty.

In the early history of flour in America, only soft wheat flours were produced. When the spring wheat flours and the hard winter wheat flours of the northern and western states came into use, they were found to be especially adapted for breadmaking purposes. They are comparatively hard, and are less readily reduced to flour than are the soft wheats. For this reason they were put on the market without being reduced to the same degree of fineness that had been practiced with the soft winter wheats. Evidently bakers connected this characteristic with the other qualities which they possess, and for this reason concluded that the superior breadmaking qualities were due to the coarser granulation. A great many experiments have been made which show that the fineness of granulation within certain limits has in itself little to do with either the amount of bread or the quality of bread which is produced from the flour. As soon as flour is mixed with water the granules are softened and broken up, and we have a homogeneous paste. This is especially true where flour is mixed with machine mixers, as is practiced in the large bake shops at the present time. If the flour is excessively coarse, of the nature well recognized under the name of Cream of Wheat, the granules would not be so readily broken down as when in the conditions ordinarily known as flour, but this is outside of the limit of ordinary practice.

Naturally a flour which is finely ground will be whiter in color than a flour which is coarse, just as snow is whiter than fragments of ice. Coarse flour, therefore, is naturally somewhat darker in color than finely ground flour when examined in the dry or, as millers say, in the

dust. For a great many years millers have judged the color of flour by first pressing it on a slab of wood or other suitable material, so as to give it a smooth surface, and afterward carefully dipping it in water and allowing it to dry. The color of the flour is then seen on the surface of the flour mass. Since this surface has been thoroughly wet, the particles of wheat have run together into a uniform paste and the coarseness of granulation has little to do with the color.

Among wheats two distinct types have long been recognized—white wheat and red wheat. This refers especially to the color of the bran of the wheat and not necessarily to the flour produced from them. On the other hand, the white wheats are usually of a soft, starchy nature, so that the flour from them is likely to be whiter than that from red wheats. White wheats are not extensively grown at the present time, excepting in the soft wheat districts of the Ohio Valley and of the Pacific coast. Certain soft types of red wheat take on a yellowish cast when they have been grown under such conditions as to develop a considerable proportion of starch, and such wheats have been given the name of "yellow berry." Wheats of this type have been extensively grown in certain sections of the Middle West.

Two leading characteristics are exhibited in the character of the color of the flours. The one is dependent more on the character of wheat from which the flour is made and the other is more dependent on the grade of flour which is produced.

All wheat flour, when freshly milled, contains a natural coloring matter which, when extracted in a concentrated condition, is of a bright orange yellow, and which has been fully identified as the same coloring matter which is found in carrots and which is known as carrotin. The amount of this coloring matter which exists in the flour material of wheats varies to a large extent. The causes of variation are the varieties of wheat, the sections of country in which grown, and the seasonal conditions. Soft wheats, such as are typical of the Ohio Valley and north and of the Pacific coast, contain a very little of this yellow coloring matter. Hard winter wheats and spring wheats contain much more. Certain types of wheat which are grown in parts of the Middle West are extremely rich in this coloring matter. Another type of wheat, known as durum wheat or macaroni wheat, also contains it in an unusually large amount. This coloring matter is most abundant near the outer portions of the wheat grain and least abundant in the softer inner portions, so that it is somewhat more pronounced in the lower grades of flour than in the higher grades. The finest, whitest flour is of a bright creamy color in its natural condition, but when this yellow coloring matter is removed is a pure, or nearly pure, white.

The finest grades of flour which are especially prized because of the small amount of color and the character of the color which is present are produced from what are called purified middlings. These are fragments of the interior of the wheat berry which have been broken down by suitable machinery in such a way as to exclude all or nearly all of the bran particles. After being broken down and suitably graded, they are further refined in suitable machines in such a way as to remove any trace of bran particles or of the germ of the wheat which may have been mingled with them. They are then reduced to flour. All of the flour which is produced cannot be refined in this way without great loss. For this reason other grades of flour are produced which are not free from bran and from germ. The particles of bran and germ which are mingled with such flour give it a darker color, which to the experienced eye is readily distinguished both in character and quantity from the color of the higher grades of flour generally called patent flour.

At least four distinct grades of flour are ordinarily recognized in flour markets: The finest grade is designated as patent flour; the third grade is designated as clear grade flour. The former represents a considerable part of the flour which is so made as to be comparatively free from bran. The remainder, which may constitute from 10 percent to 50 percent of the flour, contains a larger proportion of bran and of germ. The second grade of flour, intermediate between these, is the straight grade, and consists of a mixture of the other two in the proportions that they have been produced from the wheat in the ordinary process of milling. A still lower grade of flour is produced which contains less of the actual flour and more of the bran and germ. In winter wheat mills this class of flour is commonly known as low grade; in spring wheat mills it is more commonly designated red dog. This name is applied to it because, when prepared for color examination as described above, it has a pronounced dark-red color. All of the lower grades of flour, containing, as they do, more of the bran and often some of the germ of the wheat, have a more pronounced color than does the first grade of patent flour, and it is this characteristic to which the users of flour most strongly object. If it were not for this, the lower grades of flour would in many cases be selected for food purposes, for they contain more of the gluten and of the mineral matter of the wheat than do the patent flours.

The color of the flour, as stated above, is reflected in the color of the bread produced from it. The bread from a patent flour is of a brighter appearance than from the other grades. That from the lower grades, from soft wheat flours and from some of the hard winter wheat flours, has a pronounced grayness which is readily recognized by those who are familiar with it. That from the lower grades of spring wheat flours, such as a clear, has a pronounced brownish-gray cast. This color of flour is independent of defects in bread caused by lack of skill in its making. Bread from the same flour, made under different conditions, will appear very differently as to color in the bread. This is perhaps one reason why the housewife so much dislikes bread of a dark color. Bread which is of a dark color naturally reflects somewhat on her skill in breadmaking. On the other hand, it is quite true that an article of food which pleases the eye stimulates the appetite, and answers the purpose of a food product much better than one which does not.

Nearly $40,000 have already been raised toward the rebuilding of the Flagler Hospital, St. Augustine, Fla., which was destroyed by fire in May, and plans are being drawn for a $75,000 building with the view of starting the construction work at an early date. The building fund will be augmented by proceeds of a series of entertainments to be given by friends of the institution during the summer, and it is planned to complete the fund next winter by a vigorous campaign. Ten thousand dollars of the amount already available is the gift of Mrs. H. M. Flagler, and an equal sum has been donated by Dr. Andrew Anderson, president of the board of trustees.

The Hahnemann Hospital, Rochester, N. Y., is adding a story to one of its buildings to provide quarters for pathological and x-ray laboratories. Both laboratories, when fitted up, will be in charge of Dr. Ralph R. Mellon, at present director of the laboratory of clinical pathology at the Homeopathic Hospital of the University of Michigan.

INSTITUTION LIBRARIES

Conducted by E. KATHLEEN JONES.
Librarian McLean Hospital, Waverly, Mass.; member Institutional Libraries Committee, American Library Association.

Please address items of news and inquiries regarding Institution Libraries to the editor of this department, McLean Hospital, Waverly, Mass.

Condensed Report of the Meeting of the National Conference of Charities and Corrections, May 13, 1916, Indianapolis, Indiana.

This meeting was the first time the American Libraries Association Executive Committee on Institution Libraries has had the opportunity to make its plea before an audience composed of institution workers, but it was, emphatically, a success. We had been warned that we might have a very small audience, but in numbers and in the cordial appreciation expressed then and since the audience was a most gratifying one. Already this session has brought fruit in the shape of letters—one, for instance, from the secretary of the State Board of Control, who wishes to know what can be done to improve library conditions in that state.

The meeting was called to order by H. H. Shirer, chairman of the Public and Private Charities Committee, under whose auspices the section on libraries in institutions was conducted. After stating that the program had been arranged and the topics chosen and assigned by Miss Carey, librarian for the state institutions of Minnesota, and chairman of the American Libraries Association committee mentioned above, Mr. Shirer turned the conduct of the meeting over to Miss Carey. The chairman called attention to the fact that ten years had passed since the definite undertaking of the standardizing of libraries in state institutions, although the history of such libraries covered a much longer period. Miss Florence R. Curtis, of the University of Illinois library school, who had recently made a survey of the condition of libraries in state institutions, was the first speaker on the program and presented a report on the survey, of which the following is a summary:

This survey has been prepared from the replies to a questionnaire sent to 600 institutions supported by the national and state governments. These included 66 homes for the aged—chiefly soldiers and sailors and their wives or widows, 31 homes and hospitals for dependent children, 89 schools for the blind and the deaf, 28 sanatoriums for tuberculous and other patients, 3 institutions for inebriates, 47 for the feeble-minded and epileptic, 155 hospitals and asylums for the insane, 81 industrial and reform schools, 30 reformatories for young and first-term offenders, and 72 national and state prisons.

The returns from this study do not show that many of the state institutions have taken advantage of the help which is offered by the state library commissions and similar agencies in selecting and buying books, and in cataloging their collections. In three states a special institutional librarian is employed by the Board of Control or by the State Library Commission to give this special aid. In several states the institutional libraries are under the care of the state library workers, or some especially broad-minded and enthusiastic city library.

Those state institutions which have had for several years advice and aid from trained workers show a decided advantage over the others in the quantity and quality of their books and the use made of them.

The second speaker of the session was Miss Edith Kathleen Jones, who, in the opinion of the chairman, had the great advantage over most institution workers of not being regarded as an "outsider," owing to her service of twelve consecutive years as librarian at McLean Hospital, Waverley, Mass. Miss Jones spoke on "The Importance of Organized Libraries in Institutions." The following is a brief abstract of her paper:

1. Importance of books and magazines for hospitals and reformatory institutions now well recognized—an additional aid in the diversional treatment of the insane and in inculcating higher ideals in reform schools and prisons. The point to be urged now is that the libraries be organized and made efficient.

2. What constitutes an efficient institution library? Obviously one having books suited to the needs of the inmates, and which gets its people interested in reading. Therefore, not the old, desultory collection of unreadable books, but a vital, progressive, central library with new material.

3. A library, to be efficient, must have three things: first, an annual appropriation, not necessarily large, for new books; second, some competent person in charge, preferably a trained librarian; third, a simple but efficient cataloging, classification, and charging system. These points have been proved.

4. Private hospitals and the larger prisons and reform schools should have their own librarians and develop individual libraries. State institutions not able to afford this can follow the example of Iowa, Minnesota, and Nebraska, and employ supervising librarians for the management of the whole group of institutions.

5. State control does not, however, mean that each institution should not have some competent person, patient or prisoner, or member of the staff, in charge under the direction of the supervisor. Such persons are necessary to get the books to the inmates and interest them in reading.

6. Emphasize again that the efficiency of a library lies not in the number of its books, but in the use made of them; this efficiency cannot, it has been proved, be attained under the old, desultory methods, but only under intelligent organization, with a trained librarian at its head.

This being Indiana's centennial year, the chairman felt that it was fitting to mention the brilliant work of the state institutions of Indiana during that period, and to call attention especially to the unostentatious but effectual institution library work which has been carried on through the Indiana Public Library Commission. Henry N. Sanborn, secretary of this commission, then spoke on "The Outlook in Indiana" as follows:

There are in Indiana 18 state institutions, including the new penal farm, 6 penal or reformatory institutions, 5 hospitals for the insane, a tuberculosis hospital, schools for the deaf, blind, and feeble-minded, a village for epileptics, etc. Every one of these, except the recently established penal farm, has what may legitimately be called a library, but it is noticeable that the penal and reformatory institutions make the library a much more important part of their institutional life than the others, with the exception of the school for the feeble-minded. The hospitals for the insane have done the least and are the least interested. Several of the penal and reform institution libraries have been organized by the Public Library Commission and are under its supervision, and in some of the others this commission has been of material assistance in the selection of books. Unless there is a trained librarian in charge of the institution library, there is generally no one on the staff who is familiar with the advantageous method of selecting and purchasing books, and there is often much wasted money and many mistakes in selection when purchasing. The Indiana Library Commission urges the necessity of trained librarians in the

institutions, and in that state three institutions employ librarians trained at the commission summer school and one other has a librarian trained at Columbia University. Besides the need of trained librarians, Mr. Sanborn urges a definite annual appropriation. That the institutions themselves are conscious of this lack of a special fund was shown during the session of the last Legislature by the introduction of a bill, emanating from one of the hospitals for the insane, making an annual appropriation of $500 to all state institutions for the purchase of books to be selected with the help and under the supervision of the Public Library Commission. This bill was killed in committee, but it was a good sign and prophesies well for the future.

The last speaker on the program was Superintendent W. L. Kuser, of the Iowa Industrial School for Boys, whose fostering care of a fine library in a completely equipped reading room made him a speaker with a right to be regarded as an authority on the theme of "The Book and the Boy." This paper was, from beginning to end, such a fiery arraignment of much of the trash, if not worse, that our boys are allowed to get in the name of literature, such a splendid plea for the right training through the best books of the boy of today to enable him to take his place as the man of tomorrow, that it is impossible to give an abstract of it, but it will be printed later.

In the discussion which followed this meeting, Miss Templeton, secretary of the Nebraska Library Commission, urged again the budget or appropriation system for the institution libraries. In Nebraska it has proved economical and efficient. In the boys' industrial school of that state, which has 180 boys, the commission has spent only from $100 to $150 a year on their library, but in five years has been able to build up a good library of between 700 and 800 books. In their orthopedic hospital, with 150 children, they have over 1,100 books—the very cream of children's books—yet are spending only $150 a year on it. The Nebraska Legislature makes a special appropriation for books in institutions—$1,800 a year for 13 institutions, with a population of about 4,000 people. Miss Templeton added, "$1,800 does not seem a great deal, but by spending $1,800 last year and the year before, this year and the next, we are going to have an adequate collection of books, and, since we have a special librarian to expend that money, the libraries will be real, workable libraries, without any dead lumber on the shelves."

Mr. Shirer, of the Board of State Charities in Ohio, showed advance copies of a list of books which this board had asked a librarian connected with the children's department of the Cincinnati public library to compile for them, under the title, "A Children's Home Library. Suggestions for Ohio Child-Caring Institutions. Prepared by Mary Rudd Cochran." This very complete little list can be obtained on application to the Board of State Charities, Columbus, Ohio.

In connection with children's hospitals and homes, Miss Elizabeth MacGregor, superintendent of the Hospital for Crippled Children, St. Paul, Minn., said that the children in her hospital have regular hours for story-telling by the librarian. Pictures of the charming reading room in this hospital were shown by Miss Carey.

The need of libraries in the South, not only in the institutions, but among the colored population, was brought to our notice by two speakers. While the latter question is outside our province as institution librarians, we are glad to call the attention of our southern readers to this need.

Ending the discussion, which was brought to a close only because of the time limit, Miss Scott, organizer of the Indiana Library Commission, spoke of the manual which has been prepared under her supervision and will soon be published by the American Libraries Association Publishing Board, 78 East Washington street, Chicago. This manual endeavors to answer the following questions, which the untrained institution library worker always asks: (1) What books shall I select? (2) How shall I arrange them? (3) How shall I keep track of them? (4) How shall I get them to the readers? (5) How shall I keep them in good condition?

This manual presents the standard methods of library science as they have been adapted to conditions in institutions. All explanations are as simple as possible, so that the inexperienced librarian will be able to organize her library intelligently. The following are some of the headings: book selection and purchase; administration; furniture and equipment; periodicals, their selection and care.

What the institution librarians gathered from this meeting—from talking with other institution workers, from visiting public and hospital libraries and library schools on the way to and from Indianapolis—was that everyone who has had anything to do with institution libraries is impressed with the necessity of having a trained librarian in charge either of each institution library or of the state institutions, and of having an annual appropriation, however small, for the purchase of new books. It was the general impression that the state hospitals for the insane are the most backward of all institutions in accepting aid or suggestions from the librarians. Not once, or twice, but many times was I told of this condition, and asked why this was so, and why, if a state hospital does try to better its library conditions, it almost invariably puts in some member of the staff without library training instead of the much more economical because more efficient trained librarian? This state of affairs has also impressed me since the inauguration of this page in THE MODERN HOSPITAL. I have had many letters from state and general hospitals about developing libraries, but it must be confessed that in most cases the general hospitals have been more interested in doing the best thing and doing it well. I am inclined to believe that the reason the state hospitals have the name of being unprogressive, and even prejudiced against outside suggestion, lies in the fact that they have neither the funds nor the liberty to dispose of what funds they have, while the general hospitals are usually private affairs, heavily endowed. Does this prove that government or state ownership is the death blow to individualism, enterprise, and progressiveness?

A hospital for the National Special Aid Society, whose headquarters are at 259 Fifth avenue, New York city, is being built by Mrs. Arden Duane Doty on her husband's plantation near Macclenny, Fla. The National Special Aid Society was organized last year for the purpose of creating a volunteer corps of women for service to the country in time of need. Among its activities is the conducting of classes for the instruction of women in first aid and hygiene and in food preparation and values. The society has gone further than this, however, and proposes to do what it can toward caring for overworked women and girls who, failing in health, need rest and medical treatment.

Miss Elizabeth Jamieson, formerly an assistant in the training school of the Massachusetts General Hospital, Boston, and for a time connected with the Lakeside Hospital, Cleveland, Ohio, and St. Francis Hospital, San Francisco, was installed last month as superintendent of the Cottage Hospital of Santa Barbara, Cal.

DISPENSARY AND OUT-PATIENT WORK

Conducted by MICHAEL M. DAVIS, Jr.,
Director of the Boston Dispensary.

Please address items of news and inquiries regarding Dispensary and Out-Patient Work to the editor of this department, 25 Bennett street, Boston, Mass.

Progress at the Hartford Dispensary

In the capital city of Connecticut the Hartford dispensary has just completed its forty-fifth year, and is celebrating the event by entering a greatly improved and enlarged building. The growth of this institution is shown by the fact that, while in 1913 all its clinics together received less than 6,000 visits, in the single month of January, 1916, almost 12,000 visits were received. This rapid growth has necessitated an enlargement of quarters, so that, while only one floor of the building was utilized until 1916, the entire building of two stories is now utilized by the dispensary. The structure has been refinished and new equipment has been installed.

This dispensary represents one of the growing number in middle-sized communities which is advancing in service to meet the broadening conception of the duties of a medical institution. A report issued on the occasion of this entrance into the larger quarters explains the organization. The medical staff is organized coherently under the direction of a physician-in-chief, and a nurse, a registrar, and a number of volunteer workers are engaged in the daily clinics. One of the most marked advances has been in the fifteen months when a trained social worker has been attached to the dispensary. This social service worker not only interviews all new patients, but investigates the financial status of patients and the conditions of the homes. The trained nurse is engaged for full time, to be in attendance during clinic hours, to do follow-up work, and to care for some patients in their homes. The registrar admits the patients, and has charge of records and files.

This dispensary, says the report, is "a purely private charity, receiving no funds from the state or city, and being entirely dependent for its support on voluntary contributions. Its policy is not to treat large numbers of cases in a superficial way, but rather to do intensive work along certain lines, with a thorough system of follow-up. Its aim is to cure disease, and not merely to relieve the suffering caused by it, to detect disease in its incipient stages, and to prevent disease by teaching mothers how to care for their children."

Dispensaries in the Southern States

The growth of dispensaries in our southern states is comparatively recent, as in the census of 1910 only thirty dispensaries, most of them quite small, were reported in the ten states south of Maryland and east of the Mississippi. But the improvement of education in the South has during the last few years led naturally to the establishment of new dispensaries and to progress in already existing institutions; while, moreover, the charitable spirit and quickened public health activities in several southern communities have lately led to the development of new institutions, notably those started at the instigation of the Associated Charities of Memphis, Tenn.

The attention of dispensary superintendents may well be drawn to the report of the dispensary of the Medical College of Virginia, published in the bulletin of the college dated September, 1915, but only just now circulated. Largely at the instigation of Dr. James A. Smith, whose suggestive article on the "Importance of Dispensaries" is partly quoted, this dispensary of the Medical College of Virginia has been substantially improved in recent years, and may well serve to stimulate further development in the South.[1]

THE DISPENSARY AS A MUNICIPAL HEALTH AGENCY[2]

Patients applying for treatment at a general dispensary may be roughly grouped into four classes:

1. Those with simple ailments or accidents that can be satisfactorily treated on the floor of the dispensary.
2. Those needing hospital care.
3. Those who need the services of a nurse at home to carry out the treatment prescribed in the dispensary or for the protection of the family and neighbors.
4. Those whose physical disease is complicated by the pressure of social conditions.

First. The group requiring no attention outside of the dispensary. By far the largest number come in this class, and it was in dealing with them that the dispensary first proved its right to exist. Many of them, of course, would get well without any treatment; but so it is in private practice. Many others are saved from serious illness by timely attention. Prevention of infection in wounds and the rational treatment of wounds already infected saves much time to the laborer and his employer. Urethritis in the male is well adapted to dispensary treatment, and any educational campaign in venereal conditions can find in the dispensary the pupils it should reach, and in as impressionable a state of mind as can be hoped for. The application of casts for orthopedic conditions, much of the work on the eye, ear, nose, and throat, the oversight of the pregnant woman—this is the class of work in which the expenditure of 20 cents per visit yields good returns.

Second. The patient coming to the dispensary and found to need hospital attention. This group represents approximately 5 percent of the cases applying to a general dispensary for treatment. So it is quite necessary that the dispensary shall be affiliated with a hospital prepared to care for indigent patients. Often the ideal arrangement is that the dispensary shall constitute the out-patient department of the hospital. In communities where no municipal hospital exists, provision is often made by the municipality for privately owned institutions to care for a limited number of patients. While hospitals were few, dispensaries were limited to large cities. But as surgery filtered through its metropolitan bounds, and took surgeons to towns instead of forcing townspeople to come to surgeons, hospitals multiplied and extended until now every town of 10,000 inhabitants claims a hospital of its own. In the wake of the in-patient hospital is coming the out-patient department as a factor in the maintenance of the public health. The dispensary needs the hospital to care for certain patients; the public hospital needs the out-patient department to care for people who would otherwise entail unnecessary expense for hospital beds. The dispensary can serve the hospital by holding in the ambulatory class people who will do as well treated in this way; and by taking over ex-patients from the hospital, safely discharged at an earlier date because of the facilities afforded by the dispensary.

Third. The group requiring nursing attention at home. In dealing with this and the fourth class of patients, the free dispensaries of the country are keeping pace with the progress of the day. Time will not permit an extended discussion of the field of the visiting nurse in cooperation with the dispensary. In infantile feeding, in-

[1]Copies may be obtained by writing Dr. James A. Smith, superintendent Medical College of Virginia, Richmond, Va.

[2]Portions of an article by Dr. James A. Smith, Richmond, Va., read at the meeting of the Medical Association of the Carolinas and Virginia, February 16, 1916.

fantile diarrhea, parasitic conditions, skin lesions, the re-education of the muscles of orthopedic cases, and in many other conditions she can make effective the treatment prescribed by the dispensary staff. Going directly to the home of the patient, she ministers to his personal needs; if he is a source of danger to the public, the role of educator is added to the functions of the nurse. No class of cases illustrates the possibilities of cooperation between the dispensary and the visiting nurse better than the tuberculous. Dr. Hamman, in speaking of tuberculosis before the Medical Society of Virginia, said:

"The dispensary is the central point of attack, the clearing house of all other antituberculous activities. It is the station where the tuberculous are discovered, and the fears of those not infected are confidently dispelled. It is the doorway of sanatoriums, hospitals, and other institutions."

That the dispensary can be made in fact the control point of attack, I think I can show.

The first consideration in combating tuberculosis is to know, individually, who the victims are and where they are located. In the cities of the South three-fourths of the tuberculous cases are among the negroes; 75 percent of the attendance of the dispensary of the Medical College of Virginia is colored. During the past two years approximately 7,500 colored persons have visited this dispensary. There are 40,000 colored people in Richmond, and one out of every six of the whole colored population, sick and well, is registered there. Naturally the enrollment represents a much larger proportion of those chronically sick. I think it is safe to say that probably one-half of the tuberculous negroes in Richmond having the disease in communicable form and exclusive of the bedridden, have within two years registered their names and addresses in the general dispensary.

What is true of tuberculosis is in some measure true of syphilis. The dispensary is destined to play a leading part in the fight yet to be made against this disease.

A NOTABLE AND UNIQUE CHARITY

The Wheel Chair That is Growing Into a Fine Hospital

The Wheel Chair Home for Incurables of Buffalo, New York, has been moved from 344 Hudson street to the handsome brown stone residence, 2746 Delaware avenue, corner of Kenmore avenue. When the Wheel Chair Home was organized, five years ago, a band of earnest women came together with the idea of devoting themselves to the shutins and chronic invalids of our city by purchasing wheel chairs and loaning them to invalids among the poor.

Although a young organization, the demand for the room capacity of the home has been so great that a long waiting list has been a necessity, and the new home, which is larger and better adapted to the purpose, enables many more patients to be cared for. It is a great responsibility, but the pitiful cases of suffering spur the workers on in this great and good work.

A staff of physicians and nurses is in attendance at the home, which is undenominational, and nothing is left undone that would add in any way to the comfort and happiness of the people who make this their home, and a spirit of content, in spite of the pain and suffering that prevail, is a reward to all whose efforts make this work possible.

No paid officers are connected with the association. All donations that are received are used absolutely for the comfort of the invalids and needs of the home. Mrs. David F. Williamson is president; Mrs. Irving E. Devereaux, vice-president; Mrs. George E. Pierce, recording secretary; Mrs. Norman Edsal, corresponding secretary; Mrs. W. C. Grove, treasurer. The directors are Mrs. D. F. Williamson, Mrs. George Austin, Mrs. E. A. Chandler, Mrs. Blake P. Fraser, Mrs. I. Devereaux. The advisory board consists of George K. Staples, Elmer E. Chandler, George E. Pierce, Blake D. Fraser, Edward Fairbairn, and William F. MacGlasham.

THE MODERN SANATORIUM

Conducted by ALBERT WARREN FERRIS, A.M., M.D.,
Saratoga Springs, New York.

Please address items of news and inquiries regarding The Modern Sanatorium to the editor of this department, Saratoga Springs, New York.

The Physical Examination

The thoroughness of the examination is properly taken as an index of the interest and the efficiency of the physician. There are some exceptional clinicians who can with marvelous facility arrive at a close general diagnosis from observation of the gait, attitude, muscular condition, color, skin condition, hair condition, voice, expression, attentiveness, and facies of the patient as he enters the congregating room and takes his seat to await his turn. But while this was safe for that "canny Scot," Dr. Bell, who furnished Dr. Conan Doyle his prototype for Sherlock Holmes, it is unsafe for everyone else as a complete basis for diagnosis. Dr. Bell would undoubtedly wave his hand tolerantly, and say, "Elementary, perfectly elementary, my dear Watson;" but the rest of us need a careful, systematic, critical, routine examination, followed by a grouping of facts into a summary, in order to secure a reliable picture for our future study and action.

It is easiest to have a plank printed, leaving spaces for recording the results of examination of each region or organ, and to adopt a special method of dictating to the nurse, in order that the patient may not be annoyed or alarmed through thoroughly understanding for what possibilities search is being made or what conditions are found. It is best that the doctor's language in dictating to the nurse be unintelligible.

The chart, on which has been written the name of the patient and the date, is taken by the physician, who notes silently the *general appearance* of the patient. Under this head he states the nutritional condition, the color, expression, the nervous attitude, the presence of tremor, etc. He also notes the color and condition of *hair, skin,* and *nails,* leaving the other subdivision of the integumentary system, comprising the *teeth,* until the buccal cavity is explored. He notes the *apparent age* before asking the real age. Handing the chart to the nurse, the physician then dictates to her the condition of the *pupils* as to quality, regularity of outline, as well as to pigmentation of the iris and presence of *arcus or corona senillis;* also as to *reaction of pupil* for light and to effort to accommodation for distance. The color and vascularity of the *sclera* and of the palpebral *conjunctiva* are then dictated. Next comes the open mouth, the *tongue* receiving first attention, whether protruded straight, if tremulous, if coated, its color, and if toothmarked. Quickly the *mucous membrane* of the mouth is examined, also enlargement of *tonsils,* the color and condition of the *pharynx,* a sterilized wooden tongue depressor being daintily selected from a closed glass jar and destroyed after using in the presence of the patient. The *breath* odor is noted in passing. Next the *chest* is

examined as to shape, capacity, symmetry, and expansion, the cervical and thoracic *spine* receiving careful attention as to curves and tenderness. The *costal angle* is noted. If the patient be a man, a tape is thrown about the chest and the best obtainable figures for forced *inspiration* and *expiration* are dictated and recorded in inches or centimeters. Inspection, palpation, auscultation, and percussion reveal the condition of the *bronchi and lungs*, all rales and pathological signs being discovered and noted.

Next the *heart* receives attention. The point of maximum impulse is marked with soft pencil, and recorded as *P. M. I.* if found. By careful and accurate percussion are located and marked the *upper border, lower border, right border,* and *left border* of the heart, the two former being identified by the ribs or interspaces, the two latter by measurement in inches from the median line of the body. The heart is roughly drawn on the chest, and the *oblique diameter* measured with the tape. Use of the stethoscope is invoked to ascertain the presence of murmurs, to determine the muscular quality of the viscus, and to determine the comparative volume of the pulmonary diastolic and the aortic diastolic sounds, and the presence of pathological pericardial as well as endocardial conditions.

Up to this time the male patient has been standing. The female patient is best examined recumbent. Almost all the rest of the investigation requires the *dorsal decubitus*. The *abdomen* next claims attention, and its *circumference* is ascertained with a tape. A double fold of the abdominal fat is then pinched up, and this is regarded as the abdominal wall, being estimated and recorded in inches or centimeters. The whole abdominal cavity is then explored for masses or tenderness, and displacements of the viscera are noted as far as possible. *Lymphnodes,* in the triangles of the neck, the abdominal cavity, or in the axillæ, are then recorded. The *liver* is percussed, and its *upper border* and *lower border* noted—the former in relation to the numbered rib, the latter in relation to the costal margin—and the *vertical diameter* measured with the tape; its character of surface, edge, and sensitiveness are noted. The *spleen* is similarly noted as to position, if found at all. The *right kidney* is palpable in about one in four cases; the amount of palpable surface and the presence of tenderness are recorded. The *left kidney* receives parallel attention. The *stomach* is located by the stratch method, the *lesser curvature* being recorded in relation to the ribs and the *greater curvature* in relation to the umbilicus. Its *vertical diameter* is then ascertained by the tape. *Tympany* is determined by percussion, and may or may not coincide with the results by the "scratch method."

The *blood pressure* is taken with the band over the left arm, the patient recumbent. The physician places his stethoscope over the artery at the flexure of the elbow, and notes the five phases, the first of which is the systolic and the last the diastolic. The *mean pressure* and the *pulse* pressure are calculated and recorded. The pulse, patient recumbent, is then noted, or at any time when the patient has become accustomed to the examination and is not intent on any part of it. The *pulse rate,* patient standing, is also recorded; and in each case, lying and standing, the rapidity, regularity, character, strength, and volume are noted. Three *arteries* are explored—the radial, brachial, and temporal—and their condition as to palpability and actual thickening are recorded. The *height* is ascertained, by means of a graduated rod or marked lintel, immediately after taking the *weight,* if the weight is not to be taken regularly weekly, in the bath or other treatment room. The weight should be ascertained at the same hour of the day on each occasion, and with the same reference to the meal nearest that time of day. Further examination depends on the history. Under *remarks* the condition of the thyroid, the presence of pretibial edema, etc., are chronicled.

The physician then makes out his *summary* from the chart, thus completed, and is ready to decide the treatment of the patient, viewing this summary in the light of the history and the clinical record of the past.

Besides the foregoing a painstaking and careful watchfulness should be maintained for tissue that may provide an encouraging nidus for the development of cancer. This further investigation is imperative in view of the large and increasing number of cases of carcinoma in the entire country. Statistics reveal the facts that several hundred thousand deaths are annually due to this dread disease; and that of all men who live to be 35 years of age, one in every eleven has cancer; while of all women who survive to the same age, one in every seven has cancer. Pigmented warts, fissures that remain unhealed, knobs, knots, "bunches," and all collections of tissue that may be called "precancerous," should be viewed with suspicion and marked for removal. A recent article in a medical journal drew attention to the fact that warts and indurations on the necks of women, where dandruff fell more or less frequently, developed into carcinomata in many cases studied; and the question was raised as to the agency of seborrhea or furfuracea in causing such metamorphosis of tissue in the warts. This, for us, is beside the mark. It seems to be our duty to search for and remove such warts and indurations, and then let the dandruff fall where it will. The complete surrender of responsibility to the sanatorium physician, and the complete reliance on him for a comprehensive and exhaustive diagnosis, renders it part of his duty to discover, so far as is possible, dangerous conditions or conditions that have danger potentialities, and give the patient the benefit of warning and sound advice concerning all morbific agencies that are operating.

The examination thus outlined consumes a half hour in the case of a man and forty minutes in the case of a woman under ordinary circumstances. Feebleness or easy fatigue may necessitate setting apart more time for it.

A neurological case will require at least an hour, and an extended survey of different character will be requisite.

ALBERT WARREN FERRIS.

The managers of Robin's Nest, the country home for convalescent children at Tarrytown, New York, celebrated their twenty-fifth anniversary of the establishment of the home on the afternoon of June 1. The institution is renowned for its excellent facilities for caring for convalescent children and the interest displayed by the fashionable set of New York in their support of this charity. The Nest, as it is generally known, has always been under the control of a ladies' board of trustees and their management has shown most efficient business ability. On this anniversary opening the managers gave a lawn fete on the grounds of the Nest, and New York and Tarrytown society showed their interest by attending in great numbers. Mr. Oliver H. Bartine, superintendent of the New York Society for the Relief of the Ruptured and Crippled, delivered an address, dwelling on the success of the institution and at some length on philanthropy in general as applied to their work. The children in the Nest, although deformed and drawn from New York's poor, are particularly happy and an unusually bright-looking set of children, and quite a contrast to children of the same type seen in their own homes. Mrs. Homer Foot, Jr., is president of the institution.

NEW INSTRUMENTS AND APPLIANCES

VINCENZ MUELLER, Technical Editor.
GEO. W. WALLERICH, Associate Editor.
Please address items of news and inquiries regarding New Instruments and Appliances to the editor of this department, 327 Southeast avenue, Oak Park, Illinois.

A New Obesity Apparatus

Electrical treatment for the reduction of fatty tissue has gained considerable popularity since the work of Bergonie was published. Various types of apparatus have been designed, one of which, of European manufacture, was described in these columns. Very recently another equipment has been placed on the market by an American maker of electro-medical apparatus, and, as many features in construction have been added, and also as this apparatus has a most important place in the equipment of the modern sanatorium, we believe it demands attention of sanatorium workers.

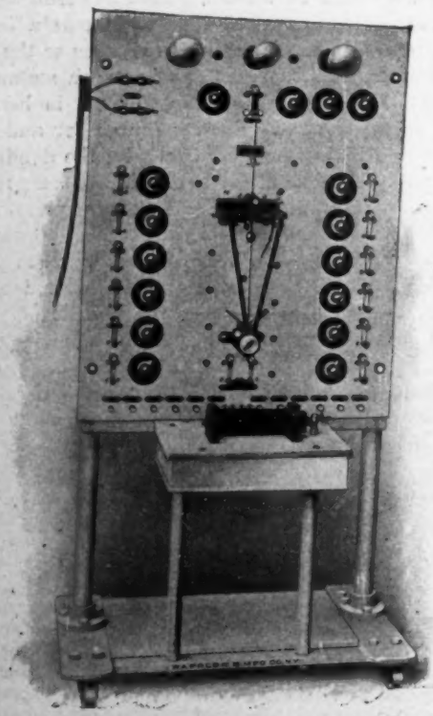


Fig. 1. Electric apparatus for the Bergonie treatment.

The switches, rheostats, rheotome, resistance lamps, etc., are mounted on a white marble slab ⅞ inch thick, 30 inches wide, and 38 inches high; the latter, in turn, is mounted on a white enameled solid iron floor-stand, with roller casters. A faradic coil and a precision interrupter are mounted on a separate slab at right angles to the base of the larger slab, and incased under the slab are large capacity condensers to prevent arcing at the point of contact.

The primary of the coil has a separate control rheostat for regulating the rapidity of interruptions and increasing or decreasing the amount of current passing through it. For the pole-changer and rhythmic interruptions, an electro-magnetic clock or rheotome is used. The "make-and-break" current is controlled by a mercury dip. This device can be run all day without heating.

Below the rheostat is mounted a DeWatteville switch. With this device it is possible to make and break the current on the positive and negative poles, on the positive pole alone, or on the negative pole alone, or the switch may be set so that a continuous faradic current can be obtained. Twelve rheostats and switches are used for the purpose of controlling the current for the different electrodes which are attached to the body. If, for instance, more current is to be used for the abdomen, the corresponding rheostat is turned to the higher number to decrease the interposing resistance. If less current is to be used on the thighs, the resistance is increased at the will of the operator and for the comfort of the patient. In other words, the current strength of each set of electrodes can be regulated so that a uniform contraction is produced.

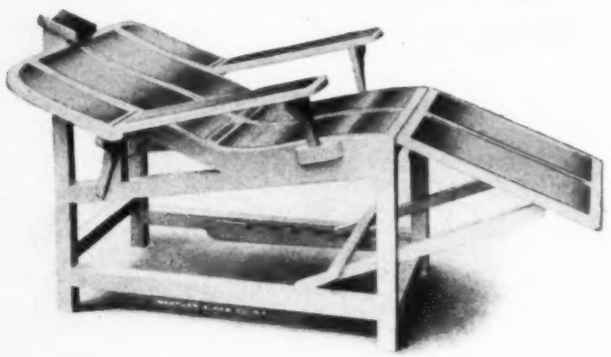


Fig. 2. Chair couch for the Bergonie treatment.

The whole apparatus is so constructed that it will do the work with precision and accuracy. The illustrations show the complete apparatus in detail, and also the special chair couch, which is necessary in giving the Bergonie treatment.

Simplified Apparatus for Blood Transfusion

DEVISED BY DR. H. W. ABELMANN, Chicago.

Since blood transfusion has passed the stage of being looked on as a procedure to be employed only as a last resort in order to save human life, after everything else has failed, and since it is now frequently performed for the purpose of curing certain diseases, such as simple and pernicious anemia, leukemia, goiter, rheumatism, tuberculosis, chronic infections, etc., an endless variety of apparatus has been devised for this operation.

It must be quite a problem for the surgeon who intends to equip himself with the necessary instruments for this work to make a selection, inasmuch as every one of the devices is considered the most satisfactory by their respective inventors. It is a fact, however, that some of them are rather complex and difficult to use, and others, although apparently of very simple construction, necessitate the possession of great mechanical dexterity on the part of the operator, and such dexterity can be acquired only either by experimenting in the dissecting room or in actual work by the surgeons at the larger hospitals, where many of these cases come for treatment.

The apparatus devised by Dr. Abelmann and the

method employed was described in the *Journal of the American Medical Association* some time ago, but since then both apparatus and technic have been further simplified and have been used in many successful operations. On account of its simplicity, and therefore easy method of employment, the writer decided to bring both apparatus and technic to the attention of the readers of this journal.

The apparatus consists of a metal box containing the syringes, transfusion needle, and solution cup (A). The

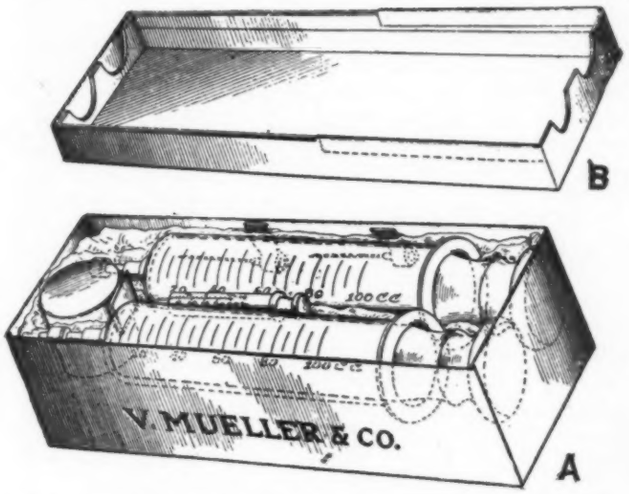


Fig. 1. A, metal box, with syringes and accessories packed for transportation; B, extension cover of metal box.

size of the box, when closed and containing all the necessary apparatus, is 9¾ inches long, 4 inches wide, and 2¾ inches high, and sufficiently compact to be carried in a coat pocket. The extension cover of the metal box (B) is utilized as a syringe tray, its stationary racks accommodating two 100-cc. all-glass injection syringes, one 2-cc. all-glass hypodermic syringe, and metal clips for keeping the needles and solution cup in fixed position. These racks prevent the syringes from rolling, thus avoiding breakage, and also serve in keeping the transfusion needles and pistons in a sterilized field. The racks further prevent the plungers from sliding, which obviates the inadvertent dripping of blood or the entrance of air into the syringe.

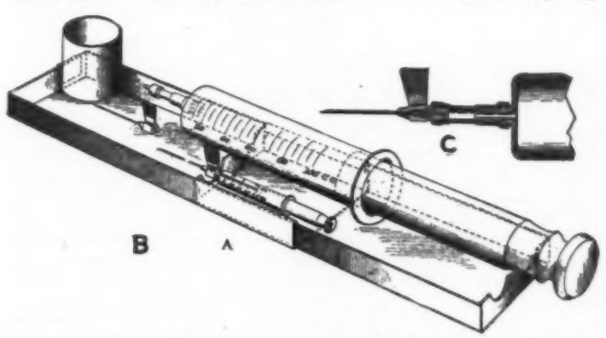


Fig. 2. B, extension cover of metal box utilized as a syringe tray; C, needle.

The extended portion of the cover can serve as a dripping pan, and is telescopically engaged with the remainder of the tray.

The transfusion needles have slip joints and are interchangeable. They are provided with a guide, which serves to indicate the correct position of the cutting edge of the needle and as a handle which gives ease and control to the operation, as well as preventing contamination of the needle. The needle is attached to the syringe by a rubber tube, and this flexible connection between needle and syringe permits the syringe to be held at the most convenient angle, thus minimizing the possibility of traumatizing the vein (Fig. 3).

The syringe is sterilized, and petrolatum (heated to the liquid state) is taken up through the needle in order to coat the inner surface of the syringe and plunger. This coating facilitates the easy sliding of the plunger, and renders both barrel and plunger air tight. After the syringe has been prepared in this manner, it is filled with 5 cc. of a 5-percent sodium citrate in 85-percent sodium chlorid solution, which excludes air from the lumen of the needle and syringe. The petrolatum coating and solution prevent the coagulation of blood.

The flexor surface at the bend of the elbow is sponged with 95-percent alcohol, and a tourniquet is placed around the arm in order to distend the veins. The transfusion needle is then inserted into the donor's most prominent veins, and as soon as the barrel is filled with blood the tourniquet is removed and the needle withdrawn; 5 cc. of the solution are then drawn up, the syringe laid on the tray (Fig. 2), and the needle removed.

An all-glass hypodermic syringe, fitted with a trans-

Fig. 3. Illustrating method of procedure.

fusion needle and filled with 10 m. of the solution, is taken and the needle is thrust into the most prominent vein of the recipient. As soon as the needle enters the vein, blood pressure pushes the plunger outward, giving proof to the operator that the needle is in the lumen of the vein. The tourniquet is now quickly removed and the contents of the hypodermic syringe emptied into the vein. The hypodermic syringe is then disengaged, and the large syringe, filled with blood, is connected and its contents injected into the recipient's vein. If more than 100 cc. of blood are to be transferred, the needle is left in the vein until two or three syringefuls of blood are secured from the donor, which are placed into the sterile tray and injected in turn into the vein of the recipient.

Dr. Abelmann states that the employment of this method is practically painless and does not require either local or general anesthesia, and can be done without the aid of trained assistants. The method eliminates the employment of cutting, suturing, or tying operations, and precludes the possibility of transmitting disease from the patient to the donor, as the blood of the patient at no time comes in contact with the donor during the performance of the transfusion.

New X-Ray Apparatus

With the ever-increasing value of x-ray diagnosis at the bedside, as well as in the laboratory, the development of a genuine, practical interrupterless x-ray transformer, having capacity to give a sufficiently wide range of service, and yet of such design that it may be readily disassembled and placed in the ordinary automobile or other small vehicle for transportation to the bedside in the patient's home, is of more than passing interest to the medical and surgical profession. Such an apparatus, which its makers have named "Multum Im Parvo," has recently been placed on the market. That this apparatus is far in advance of the portable high-frequency x-ray coil is evidenced by the fact that numerous clinical tests have shown it to have sufficient capacity to give perfectly satisfactory radiographic service in all bone lesions, including the head, pelvis, in locating foreign bodies, and complete fluoroscopic service in accordance with modern technic, which includes the examination of the complete alimentary tract. For treatment work this transformer will give complete service so far as superficial lesions are concerned and a limited amount of service in deep therapy.

Victor "Multum Im Parvo" interrupterless x-ray transformer.

The apparatus, while occupying a floor space of only 20 by 21 inches, is a practical and impressive looking outfit, but is so designed that it is quickly and easily disassembled without the use of a single screw, spring dowels being used for automatically making the mechanical and electrical connections between the units. When used for outside work the lower unit may be dispensed with, as its sole function is to elevate the apparatus to a convenient working level, and it may be used for storage purposes, as the front panel is hinged. At the present time this apparatus is arranged for alternating current only.

Physicians and surgeons who have given up the idea of installing an x-ray equipment on account of limited space will be well repaid for investigating this new interrupterless x-ray transformer.

New Container for Surgical Suture Material

With the advent some years ago of the hermetically sealed glass tube with a label inclosed, the problem of surgical safety as regards suture material was solved, provided, of course, that the fundamental rules of bacteriological determination for sterility of ligatures and sutures had been carefully observed before the impregnation with an antiseptic was attempted.

To Mr. B. K. Hollister, of Chicago, we believe, belongs the honor of introducing the now so well-known sealed glass ligature tube, which has become exceedingly popular, and since it first appeared has been adopted by most of the leading manufacturers of suture material. In order to meet the demand for less bulk and weight, Mr. Hollister recently introduced a new package which is known under the trade name of "Ovltubes," and for these new tubes he claims a general greater operating room convenience. The oval shape reduces packing bulk by nearly one-half, while the tubes break readily at the mark with a sharp, clean fracture, cannot roll, and the contents are positively guaranteed against deterioration until used, and no reasonable limit is placed on the number of times that they may be boiled with the instruments at the time of operative preparation.

Hollister's new suture container.

The catgut is confined in a natural coil, cannot twist, and where threaded, as in an emergency tube, the curved needle lies free and cannot develop a blunted point through pressure contact with the tube wall, as so often happened with the old-style container.

The following sutures and ligatures are being offered, packed and sealed in the new flat container in sizes 00, 0, 1, 2, 3, and 4: pyoktanin catgut, chromic catgut, and iodized catgut P-M-I. Other sutures and ligatures packed in the same way are silkworm gut, both white and iron dyed, horsehair sutures, and umbilical tape.

Today it is well understood that the preparation of this class of surgical requirements should be a scientific work, the success of which can be assured only when those engaged in the preparation are possessed of the aseptic conscience and a great sense of their responsibility. As Mr. Hollister has had many years' experience in the preparation of surgical suture material, and possesses an organization whose efficiency has been thoroughly tested, we have no hesitancy in urging the surgeon who realizes the supreme importance of his operative work to give the material contained in these ovltubes a trial the next time he feels that he should make a change in the use of his suture material.

In an effort to determine whether the nurses, stewards, and ambulance drivers of the emergency hospital service of San Francisco were entitled to one day off in seven, as petitioned to the Board of Supervisors, Charles A. Nelson, a member of the board, recently visited the five emergency hospitals of the city incognito. At each hospital, his identity being unknown, he appeared shabbily dressed and applied for treatment for some imaginary ailment, and while being examined by the surgeon on duty he watched what was going on and the treatment accorded others. In each instance Supervisor Nelson's own trouble was diagnosed as merely one of "I won't work," and he completed his tour so well pleased with what he saw that he wrote a letter to the employees' committee assuring them of his support.

At the twelfth annual meeting of the Michigan State Nurses' Association, held in Kalamazoo May 23-25, officers for the ensuing year were elected as follows: President, Ida M. Barrett, R. N., Grand Rapids; vice-presidents, Fantine Pemberton, R. N., Ann Arbor, and Mrs. Martin M. Foley, Detroit; recording secretary, Christine Hendrie, R. N., Grand Rapids; corresponding secretary, Anna M. Schill, R. N., Flint; treasurer, Katherine Hart, R. N., Petoskey; councilors, Mrs. Lystra E. Gretter, R. N., Detroit, and Sarah E. Sly, R. N., Birmingham.

QUERIES AND ANSWERS

Who Furnishes the Gloves?

To the Editor of THE MODERN HOSPITAL:

Our state university makes use of our free wards for clinical purposes, and consequently uses an enormous amount of rubber gloves, which the hospital furnishes gratis. You, with your wide hospital experience, can tell us if this is customary. We furnish all the gloves our surgeons require for private and clinical cases.

We have a hospital of 110 beds, of which 46 percent are charity cases. Pardon me for taking your time, but I have read a number of articles in THE MODERN HOSPITAL, and value its opinion very highly.

One more question: do surgeons use gloves after they are mended. OHIO.

You are probably in for it in the matter of furnishing rubber gloves to the surgeons in your hospital. Unless the conditions in the university medical school are peculiar to your institution, you might be able to persuade the faculty to pay for the gloves, but in all probability they will come back at you with the proposition that they are giving free medical and surgical service to the hospital, and that it is as little as the institution could do to furnish them the garments and the material with which to work. Most of us who have had a good deal of experience rather insist that the institution shall furnish the rubber gloves, catgut, and operating garments. Experience has taught that when we do this we get a greater uniformity in the materials used in the hospital, and thus assure for our institution an even, smooth-working technic; but we certainly would not feel obligated to give the surgeons unmended gloves always and for every operation. Of course, the claim that the surgeons make is that mended gloves may have tiny hiding places for microorganisms—all of which is pure nonsense, because, if a glove is sterilized, all of it is sterilized, whether it be mended or not; and if it is not sterilized, it ought not to be used, whether it is new or mended. In order to be quite sure on this point, and in order that you may convince your surgeons of the safety and reasonableness of your attitude, you should be extremely careful in the matter of your sterilization. You are probably using either low-pressure steam or hot water to sterilize your gloves, because dry heat not only destroys gloves rather quickly, but it requires a very high temperature to be sure of perfect sterilization.

Administrative Medical Staff Problems

To the Editor of THE MODERN HOSPITAL:

As a subscriber of your journal, I would like to have your opinion on the following matters:

The professional services in our institution are arranged in such a manner that each surgeon and medical man receives four months of service—two months male and two months female. It is my opinion that this is a very poor arrangement—as I believe in changing services three times a year—that our patients do not receive the proper attention, and that our staff is very little benefited by the division of the work. I would recommend a continuity of service for all connected with the hospital—medical and surgical men included.

The interns of our hospital are taking care of the dispensary service, which in my opinion should be done by members of the visiting staff.

I intend to bring these two questions to the board of managers, but before doing so want to be sure of my ground, and ask you to kindly discuss these matters in the columns of your magazine.

I thank you in advance for your kind assistance and courtesy. F. C. HILKER,

Superintendent Pottsville Hospital, Pottsville, Pa.

There is no doubt as to the correctness of your views in regard to the split services of the medical staff in your hospital. The practice of dividing the services by months, giving each man two or three or four months' service, has become obsolete—for two reasons: first, because, as you say, the patient does not get a square deal; just as his physician begins to understand the case perhaps, and he is equipped to benefit him, there is a change and a new doctor comes on service. We all know that medical men do not take each other's diagnoses for granted; each man wants to make his own diagnosis. One can easily see that in complicated, long-drawn-out cases the repeated change of medical men would do the greatest possible amount of harm to the patient. The second reason why this practice is becoming obsolete is that short services are of little value to medical men. About the time that they get really interested in their service, and about the time that they have mapped out a course of research work and study, they are out again. After one or two attempts, men give up attempting to do serious work, and the hospital suffers very greatly.

By all means persuade your board, if possible, to give continuous service to medical staff men. If it is necessary to take care of a certain number, do so by dividing up the service in other ways than on the time basis. For instance, if you have four surgeons that must be accommodated on the staff, give one of them the fractures and dislocations, and let him do something in that field over a period of one or two or five years if you like; in other words, let him specialize in that field. Give another man the glands, including the gall bladder, the pancreas, the thyroid, etc., and let him make a careful study and do some work in that field; it is worthy the serious and hard work of any man over a period of years. Let another man do the intestinal surgery, including the appendix, the stomach, etc. Let another man take all the gynecology.

The medical service can be distributed in the same way, and so with the other services. It could be easily arranged so that one man on each service could be elected chief of the service, with certain executive functions, as, for instance, he could see that the correct technic in the operating rooms was being carefully lived up to; he could make it his business to see that the sterilization was done efficiently, that the solutions—such as Locke and Ringer—were properly made; he could see that the catgut was all right all the time; see that the operating tables were always in good order. Any superintendent of a hospital who had good sense would welcome such assistance on the part of the medical staff. This chief of service could also see that the rules were workable, and, if at any time he found one that seemed not to be workable, he could submit changes and get something adopted that would be workable. He could see that there was proper rotation of patients, which is really a part of the duty of the medical staff—that is to say, he could see that chronic cases or incurable cases were sent out or redistributed, or that arrangements were made for them in other institutions;

in other words, he could see that the material in the hospital was always kept fresh and active, and that the place was not filled up with cases that were not being benefited and that should not be there. The wise superintendent would also welcome advice along these lines.

It is difficult enough to make proper diagnosis in the beds in the hospital, with all the facilities of a laboratory; how much more difficult it is to make decent diagnosis in the dispensary—"on the wing," so to speak. If a diagnosis means anything, and if a dispensary is for the purpose of doing good in the community, then it goes without saying that intern service in the dispensary is not adequate, and that members of the visiting medical staff ought to take care of all, except the very obvious cases, and even in these cases they should be compelled to be present until their associates, the interns, demonstrate their qualifications to take care of these plain, easily diagnosed cases. A member of the medical staff who is too busy to keep dispensary hours ought to be too busy to need a place on the hospital staff, and he ought to get off and let somebody have it who will take care of it.

Segregation for the Infectious Diseases

To the Editor of THE MODERN HOSPITAL:

Can you send me outlines of plans for a contagious disease hospital building to cost from $12,000 to $15,000?

DR. P. B. WEBB.

Unfortunately there are no standard plans for communicable disease hospitals, but there are some pretty definite principles of architecture, although there are two schools—one of them created by Dr. Chapin and Dr. Richardson, at Providence, R. I., and the other school, which insists on segregation. Dr. Chapin and Dr. Richardson, you know, stand by the principle of contact of the communicable diseases and rely on soap and water for cleanliness. They build their communicable disease hospitals exactly as other hospitals are built, and apply their protective devices in the shape of a technic of cleanliness and asepsis in the institution. Some of the rest of us believe that where a hospital can be conducted as Dr. Richardson does the Providence institution, that is all right, because he has all-time physicians, graduate nurses, long-service interns, and no physicians in private practice are permitted to have patients in the hospital. Under these circumstances it is not a difficult thing to put in a rigid technic; but where clinicians in the community may come with their private patients, and where under-graduate pupil nurses are to be depended on for much of the nursing service, and where it is difficult to get interns, it seems to us that the thing to do is to segregate the patients, and that is not a difficult thing. We are sending to you, under separate cover, the story and plans of a communicable disease hospital carefully designed a year or two ago, in which segregation was planned for in a hospital whose medical staff thought they could conduct their institution like Richardson was conducting his. It was felt that, if the architecture were right for segregation, and if their plans for segregation by technic ever failed them, they would still have an efficient hospital. The hospital being sent you is, of course, larger than what you are planning, but the principles of construction are precisely the same—the building to keep your measles off to itself, if necessary, and to keep your scarlets and other communicable diseases to themselves. Then, if you want to have a single nurse go from one disease to another, and protect herself and her patients by washing her hands and changing her gown, all well and good.

Plans for a Small Hospital

To the Editor of THE MODERN HOSPITAL:

It is our purpose in the very near future to erect a small up-to-date hospital in this city with the estimated cost of the building between $12,000 and $15,000. We are writing you for information as regards plans of hospitals of this type, understanding that you are in a position to give us this information. We want to erect this building on the unit plan, so arranged that additions may be made from time to time. Any aid you may be in a position to give about plans, details, etc., will be greatly appreciated.

ALABAMA.

Your proposal to erect a small, flexible hospital, capable of additions from time to time, is a most interesting and attractive one, and you are to be congratulated on having so lively a subject to interest you in the development of the modern hospital idea.

There are no cut and dried plans for hospitals in this country, and we shall have to look into the matter more carefully than we have been able to do since your letter came. We think you had better make a sort of survey of your community; take into consideration the population and the character of the population, what percentage are whites and what negroes, the general trend of the occupations of the people, whether farmers or laborers in factories; the character of the town as to the density of population ought to be taken into consideration also, because the location of the hospital must be predicated on this condition; whether the hospital is to be self-supporting or largely charitable is of importance; a great deal will depend also on the source of the funds, both building and for permanent support, because, if it is a stock corporation idea, there will be fewer people to please and you can come nearer to doing what you choose than if the project is to be backed by the community at large or a great number of people—in which latter case they will demand many things that will be expensive.

Such facts as these are almost indispensable in contemplating the organization and construction of a hospital; this is what we call a survey of the hospital situation of the community, and we would like to have you make it and give us the data. We can then be of far greater service to you and shall be glad to help you.

LETTERS TO THE EDITOR

Autopsies in Hospitals for the Insane

To the Editor of THE MODERN HOSPITAL:

My attention has been called to certain statistics concerning autopsy permissions in a recent number of your journal. In this connection it may be of interest to say that at Danvers last year we performed autopsies in 54 percent of the cases dying, and that the twenty-year average for the institution is 44.25 percent—a record which far surpasses any of the state institutions of Massachusetts. I may also state that the number of autopsies last year was 99 (one partial examination is not included), and that the total number of autopsies for twenty years is 1,433. These figures are perhaps the more interesting when we recall the small number of hospitals for mental disease in which any autopsy work is done at all.

LAWSON G. LOWREY, M. D.,
Pathologist Danvers State Hospital.

Philadelphia's first occupational clinic is soon to be established in connection with the University of Pennsylvania Hospital, that city.

THE HOSPITAL KITCHEN

Please address items of news and inquiries regarding The Hospital Kitchen (such as equipment and other matters connected with the kitchen and dependent departments of food storage and service) to The Modern Hospital, Kitchen Department, Metropolitan Building, St. Louis.

The All-White Kitchen

Doubtless it is to conform to the idea of spotless cleanliness and sanitation that the all-white kitchen is the thing to be desired, and it is easy to equip a kitchen in all white, provided the necessary money is at hand.

White does not necessarily mean cleanliness or sanitation, but it is the one color which so accentuates the presence of dirt that those in charge easily see it and demand its removal, and consequently an all-white kitchen is more likely to be kept clean.

For the floor, white tile can be used. The walls can be white tile up to, say, 6 or 7 feet above the floor, and above that, including the ceiling, can be of one of the hard finishes which are waterproof, and can be scrubbed periodically to remove any dirt settling on them.

With all the apparatus set well away from the walls, as shown in all the kitchen plans published in these columns, there can be no excuse for anything but the most perfectly clean walls. With the equipment all set well above the floor and the floor properly sloped to allow of perfect drainage, the kitchen can be washed out with a hose and mopped, so that once a day after the work is over it can be left spotless to begin the next day's work. To enable this scheme to be carried out, the ranges must be set up on a raised base, with rounded corners, about three inches above the floor. A large proportion of the equipment can be white enamel finish. By white enamel is meant real enamel, and not japan posing under the name of white enamel, which is cheaper and not at all durable, and very shortly turns yellow in color.

The kitchen equipment specifications of a large hospital recently examined were drawn in such a way that japanned steel fronts could be used, while firms bidding on real vitrified porcelain enamel on 14-guage steel would be barred by the large difference in cost.

If white equipment is desired, it is all important to see that the specifications call for "white vitrified porcelain enamel," and not for "white enamel." Japan, or the various trade names of materials which are simply japan, put on thin steel and dried at low temperatures, comes under the heading of white enamel finish, but vitrified porcelain enamel cannot be put on the steel, except at a very high heat, and the mention of the guage of steel on which it is to be put precludes the use of thin steel, which will buckle and look unsightly in a comparatively short time.

As to the equipment, the use of white enamel can be very general, with, however, some limitations. The fronts of the ranges can be finished in enamel, but it is hardly worth while because the high heat in the range expands and contracts the enamel to such an extent that it cracks and the cracks cause an unsightly appearance, besides which the heat discolors the enamel in time and grease spots bake into it.

When electric ranges are used, the conditions change. White enamel can be used because electric ranges are insulated and the heat consequently cannot affect the enamel. Steam kettles, steam roasters, steam tables, dish closets, and, if desired, the iron pipe legs of the wood- and steel-topped tables can all be finished in vitrified white porcelain enamel.

It is not practical to finish galvanized iron sinks in white because the damp will penetrate between the two thicknesses of metal and cause rapid rusting. There is no reason, however, why the front of the sinks cannot be painted white with some hard finish waterproof white paint, which, however, will have to be renewed from time to time.

White enameled steam jacketed kettles are of two varieties, one insulated and the other not. The heavily insulated kettle (Fig. 1) is of German origin, and consists

Fig. 1. Heavily insulated kettle.

of a cast-iron jacketed kettle, around which is a thick insulating packing, the sides being straight up and down, the white enameled finish being held in place by German silver or steel nickel-plated bands. In practice the insulation economizes the amount of steam used and prevents the heat being diffused into the kitchen. The covers of these kettles should be of heavy-guage monel metal, this metal being incorrodible. The other kind of jacketed kettle (Fig. 2) is also of cast-iron, but the white enamel finish follows the contours of the kettle, and a thick sheet of asbestos forms the insulation around the steam jacket. The cover, of course, should be the same. These kettles are in use in the Cincinnati General and Ford hospitals and in several others.

The steam roaster (Fig. 3) is the type in use at the Ford Hospital, Detroit, Mich., and is cast-iron, steam jacketed, and heavily insulated between the cast-iron and the white enamel finish.

For all the flat surfaces on steam table fronts, dish warmers, urn stands, pantry counters, etc., the white enameled plates are put on over the metal foundation and held in place by metal bands. The legs of steam tables and steel cook's tables can be of cast-iron, white enameled, and the feet of the other fixtures can be of the same material.

In connection with these bands, care should again be exercised in specifying. German silver is the best metal because it is the same all the way through, and constant polishing cannot affect its appearance. Steel bands, copper-plated and then nickeled on the top of the copper, are in

Fig. 2. Steam jacketed stock kettle.

very general use and give satisfaction, but, of course, polishing will eventually rub off the nickel. Bands of steel nickeled without first copper-plating on the steel will not stand wear, owing to the rusting process which nickel does not prevent. Therefore, despite the slight extra ex-

Fig. 3. Steam jacketed roaster.

pense, it is better to specify German silver trimmings on all the fixtures.

Canopies over ranges can be finished in white enamel on the outside, and the effect is, of course, very striking and gives a finish to the all-white kitchen, impressing the visitor at once on his entering. The inside can be and has been finished in white enamel, but it is doubtful if there is any practical value to be derived from the heavy extra expense which has to be incurred for this form of construction.

Finished and equipped on the above lines, the white kitchen will stay white all the time because the materials recommended are of a nondiscoloring nature, and none of the white enamel is recommended to be placed where excessive heat can turn it yellow.

Unquestionably, wherever the funds available will permit it, the all-white kitchen is desirable, but it is equally most inadvisable to put in an all-white kitchen of materials which are merely white and which will shortly change color or buckle, simply because the white color is wanted and the funds available will not permit the specifying of the proper materials. Better a black floor, finished in one of the iron-hard cement finishes and white hard finished walls, and the standard kitchen equipment, which can be kept in just as sanitary condition as the all white, than a fake all-white kitchen which is merely white.

Starching Methods in Use Today

The commercial laundryman at the present time is very much agitated by the different methods of using starch which are being presented for his consideration. These methods vary one from another, and the partisans of each are claiming superiority over the other, so that the ordinary laundryman, without the advantage of being able to thoroughly investigate the merits of these different methods, is very apt to be led astray and bring disaster on his head, and it is for that very reason, having the good of the trade at heart, that the various processes have been thoroughly investigated and these methods classified under the three heads, hot starch, raw starch, and cold starch.

HOT STARCH.—Hot starch, briefly, is that method with which we are most familiar, and consists of bringing certain proportions of starch and water to the boiling point, expanding or bursting the starch crystals, and using that sticky, cohesive paste for the operation designed. This method requires the starch to be used and kept at a high temperature, as the highest degree of penetration can be obtained only while the starch is in this condition, for, as we all know, just as soon as this mixture begins to cool it also begins to thicken or jelly, and loses its penetrating properties, in which condition it becomes to a large extent valueless to the user, and causes a large amount of labor and waste to keep on reheating and boiling to bring it back to its original fluidity. We will not go further into this process at this time, but rather mention it only for the purpose of comparison with the other methods now in vogue.

RAW STARCH.—This is a mixture of raw starch in water, of which no part whatever is cooked. The idea is all right—that of cooking or bursting the starch crystals in the article to which it is applied—but unfortunately starch is absolutely insoluble in water, and makes this method impracticable on account of the constant agitation necessary to keep the mixture in solution, and, in spite of the extreme vigilance on the part of the user, certain precipitation is bound to take place, which causes all sorts of trouble—lack of uniformity both in weight and stiffness, and glossy spots or high lights. Its disadvantages so far outweigh its advantages that, between the two methods, hot starch and raw starch, the former would unhesitatingly be recommended for easier and more uniform results.

COLD STARCH.—Cold starch, which might be called a compromise starch, because it is a mixture of cold cooked

starch and raw starch, is the most plausible and easiest of the different methods to handle, for by this method, and by this method only, it is possible to eliminate many of the troubles attendant on the use of hot and raw starch, and obtain at the same time easiness and simplicity of operation, economy, and improved quality. As stated, this process is a mixing of cold cooked starch and raw starch, and we might add at this time that the purpose of using the cold cooked starch is solely to keep the raw starch from precipitating. Anyone who is familiar with the character of cooked starch after it has become cold and jellied will readily recognize the impenetrability of its character, and it is in the blending of these two mixtures—that of the cold cooked starch and the raw starch—that the success of this method depends. They must be amalgamated, or so thoroughly mixed that the finished product is a smooth emulsion of the consistency of thick cream and of such a nature that it is impossible to determine where the cooked starch leaves off and the raw starch begins. This blending process can be accomplished successfully only in machines that have been specially constructed for this purpose on certain positive principles.

The only recommendation to be made in regard to the starch to be used in this preparation is that thick boiling starch be used, and preferably wheat starch, if that velvety, thick, pliable, almost unbreakable finish is desired. The object of using starch in this form, 50 percent cooked and 50 percent raw, is the same as in the raw starch process—that of conveying the raw starch in the articles to be starched and having the cooking or bursting of the crystals take place in the articles; we have in the cooked starch a vehicle for carrying it, and, owing to its cohesive qualities, holding the raw starch in suspension indefinitely.

To prepare this emulsion is very simple, as follows: It is first necessary to boil that portion of the mixture that is to be cooked. This is done in the usual manner, using about 16 ounces of starch to a gallon of water, and boiling about twenty minutes. This fluid is drawn off from the cooker in convenient receptacles and allowed to stand until it is thoroughly cooled and set. It is best that it should stand over night, but this is not essential. When ready to mix, remove the skin from the top of cold cooked starch, pour the mass into the mixing machine and run the machine until the starch has been reduced to a creamy emulsion. This emulsion will absolutely stay in solution for an indefinite period. This is to be used in practically the same manner as hot starch, and without any of the difficulties associated with the use of hot starch. This starch is as free to use as water, as it does not thicken, can be drawn from the receptacle in which it is kept without any further preparation and used in the laundry wherever starch is required. The fact that this emulsion carries 50 percent of raw starch makes it much more valuable and economical.

A number of laundrymen in various parts of the country are now working on this system and are enthusiastic in its praise. Some are using it in the same manner as they formerly had used the hot starch—that is, following up the starching by drying and dampening before ironing, while others are doing this with their collars only, having succeeded in starching 90 percent of their shirt work in the washing machine and taking them direct from the extractor to the press machines. This is no experiment. In one of the largest laundries in the East this method has been successfully followed now for two years, and the results are surprisingly and uniformly good, both as to the color of the material and the stiffness and flexibility of the cuffs, but it is the collar work that has been a revelation. The injection of this combination cold starch has produced a collar which in the finish has been the dream of ambitious laundrymen for years—clean, clear, heavy, and flexible, with a remarkable freedom from streaks and greatly reducing cracked collars and "gobacks."

INSANE ALIENS LET LOOSE

New York Paper Castigates Government for Lax Immigration Methods

A recent editorial in the New York *Sun* contained the following statement: One out of every four patients in the state hospitals for the insane is an alien, permitted to land in this country by the United States Government, and that the taxpayers of New York support them. They contribute to the congestion of the hospitals which renders impossible the service the managers desire to install; and the United States, in spite of the justice of the state's plea for relief, neglects to make provision for those mentally deficient it introduces into the country, or even to reimburse New York for the expenditure the state makes in their support.

The Federal Government should, of course, care for the maniacs it lets loose, but it will not. It prefers to turn them out of Ellis Island and put the burden of maintaining them on the states. The fact that deportation is at present difficult, and in many cases impossible, has no bearing on the case. The abuse was notorious before the circumstances now existing became effective. The United States has systematically shirked its duty and imposed on the states, particularly on New York, an expense of self-protection they never should be called on to bear.

If the Federal Government cannot keep lunatic aliens out of the United States, it should provide for their detention and treatment; and if it is indisposed or unable to do this, the least it can do is to pay New York what they cost every year.

THE LEVELING PROCESS IN THE HOSPITAL

Dr. Wiley, Famous Expert, Hopes to See Rich and Poor Treated Alike in Sickness

Dr. Harvey W. Wiley, in a recent address at Washington, D. C., to the graduating class of the National Homeopathic Hospital School for Nurses, said that he believed in what he called the socialization of medicine, and that he hoped to see the hospital enlarge its scope so that the people of all classes could receive skilled treatment. He declared also that he would have the hospitals run on the same principle as the public school, where rich and poor alike could be treated as rich and poor are educated. "This may not be a good doctrine for the physician who is getting $40,000 a year," said Dr. Wiley, "but it is good doctrine for the physician who is getting but $500 a year, and it is good doctrine for the people.

Mercy Hospital, Chicago, has recently opened a new four-story addition erected at a cost of $300,000. The first floor of the structure is reserved for children patients, a large playroom being one of the features. The second and third floors are divided into wards and private rooms, and the fourth floor is to be devoted to obstetrical service.

Mount Sinai Hospital, New York city, has announced the receipt of a gift of $150,000 to endow its department of abdominal surgery. The donor is Charles A. Wimpfheimer, who had previously given $230,000 to the institution.

AN EFFICIENT ORGANIZED CHARITY

Business Methods Obtain in the United Hospital Fund and It Requires Efficiency in the Institutions It Helps

The Hospital Saturday and Sunday Association, New York, now called the United Hospital Fund, was organized in 1879 with fifteen hospitals, and there are now forty-six. The first year's receipts were $26,455.07, and last year's were $126,421.75.

As its name suggests, the association sought at the outset to take a collection in synagogues and churches only on the last "Saturday and Sunday" of the year. Such collections, however, reach only a portion of the public and are at the mercy of the weather. The hospitals, on the other hand, need support every day in the year, and serve every individual, directly or indirectly, regardless of creed. Moreover, the association is so organized as to be free from partisanship, whether racial, religious, political, or institutional, and it is therefore in a position to enlist the hearty cooperation of the whole community. For these reasons the association is now at work throughout the whole year in raising funds not only from religious bodies and benevolent orders, but also from firms and individuals, and through the Woman's Auxiliary.

The association serves the voluntary or nonmunicipal hospitals and the benevolent public (1) by raising, with the least cost, money for the large amount of necessary free service to the poor, and (2) by distributing this money among the hospitals in such a way as to promote efficiency and cooperation. The distribution is based on the number of days of free hospital treatment given by each institution during the year, combined with the daily cost per ward patient, no credit, however, being allowed for a cost in excess of $2 per day.

While the treasurer of the association, Mr. Charles Lanier, 59 Cedar street, New York, will give credit for and will promptly forward to particular hospitals funds so designated by the donors, the association strongly recommends that, as far as possible, the distribution be in accordance with the above method as being fair to other donors, stimulating to hospital efficiency and to the broad humanitarian spirit of which the association is a valuable expression.

On May 1, 1916, the fund distributed $110,000 among forty-six institutions, including general and special hospitals, as well as hospitals for the care of women, children, incurables, and convalescents. The distribution of this money was as follows:

DISTRIBUTION OF THE UNDESIGNATED FUND MAY 1, 1916

Hospitals	Total days, 1916	Free days, 1916	Ward cost, per capita 1915	Ward cost, per capita 1916	Appropriation 1916	Appropriation 1915
General Hospitals—						
Mt. Sinai	159,579	92,311	$1.94	$2.17	$ 8,745.16	$ 9,519.77
New York Hospital	118,626	88,339	3.07	1.83	8,113.75	8,061.18
St. Luke's	113,623	81,210	2.24	2.17	7,931.45	7,490.83
Post-Graduate	119,753	59,829	2.13	2.65	5,843.25	5,898.57
German	88,511	54,552	2.29	2.47	5,327.87	4,783.75
Roosevelt	79,562	48,518	2.25	2.25	4,738.55	4,746.02
Lincoln	56,192	38,354	2.02	2.00	3,745.88	2,868.48
Lebanon	57,901	26,250	2.08	2.02	2,563.73	2,952.97
Beth Israel	40,738	24,606	1.97	2.16	2,367.08	2,624.63
Flower	50,605	17,086	2.38	2.65	1,668.72	1,334.33
French	30,846	11,814	2.15	1.67	1,153.82	1,068.07
Polyclinic	62,494	10,231	2.36	2.53	999.22	1,755.99
St. Mark's	28,679	10,787	1.84	2.28	969.23	1,001.91
Hahnemann	26,773	9,170	2.90	3.31	895.59	1,047.40
Knickerbocker	15,111	8,448	2.76	2.79	825.08	885.61
Volunteer	11,838	7,835	2.40	2.82	765.21	400.61
Sydenham	23,183	9,437	1.57	2.02	723.50	1,302.81
Har Moriah	11,035	6,381	2.53	2.40	.....	362.92
Park	13,306	3,692	2.56	2.76	360.68	250.00
Total	1,108,190	608,850	.....	.....	$ 57,737.77	$ 58,355.85
Special Hospitals—						
Orthopedic	55,527	53,279	$1.71	$1.81	$ 4,449.02	$ 4,648.29
Ruptured and crippled	63,324	43,734	1.42	1.50	3,032.60	2,959.52
Deformities and joint diseases	21,685	12,487	1.65	1.93	1,006.10	914.03
Manhattan Eye, Ear, and Throat	48,831	20,225	2.25	2.45	1,975.29	1,825.25
Eye and Ear Infirmary	44,047	21,550	1.72	2.00	1,810.04	1,903.24
Ophthalmic	13,776	8,068	2.21	2.90	788.06	757.28
Knapp Memorial	12,016	4,849	1.87	2.10	442.75	370.64
Skin and Cancer	28,253	21,059	2.00	1.93	2,056.74	1,658.85
General Memorial	20,428	14,071	2.76	2.63	1,374.24	1,495.25
House of Rest	26,647	26,647	1.65	1.73	2,147.04	2,148.79
Neurological	25,660	6,220	3.36	3.55	607.48	250.00
Total	360,194	232,189	.....	.....	$ 19,689.36	$ 18,931.14
Incurables and Convalescents—						
Montefiore Home	226,532	123,001	$1.49	$1.28	$ 8,949.67	$ 9,525.79
Home for Incurables	104,052	29,638	1.56	1.54	2,257.31	1,956.34
Isabella Heimath	18,018	18,018	1.21	1.29	1,064.61	1,327.69
House of the Holy Comforter	22,544	22,544	.74	.83	814.63	871.74
St. Andrew's Convalescent	5,635	5,040	1.05	1.03	258.42	281.49
Total	376,781	198,241	.....	.....	$ 13,344.64	$ 13,963.05
Women and Children—						
Lying-In	72,090	52,517	$2.23	$1.63	$ 5,129.12	$ 4,498.42
St. Mary's Free	48,937	48,937	1.20	1.10	2,867.67	2,685.49
Infirmary for Women and Children	32,748	22,648	1.88	1.90	2,079.21	2,095.39
Woman's Hospital	45,113	23,505	2.64	2.82	2,295.64	1,970.66
Babies' Hospital	23,760	18,534	1.81	1.98	1,638.15	2,037.92
Sloane Hospital	73,644	27,231	1.16	1.39	1,542.53	1,433.61
Nursery and Children's	23,903	12,311	1.99	1.54	1,196.31	1,572.13
Manhattan Maternity	15,328	9,588	2.02	1.84	936.42	983.48
Misericordia	29,359	14,949	1.00	1.25	730.00	734.16
Hospital for Women	16,425	5,711	2.0C	1.80	557.78	363.94
Jewish Maternity	36,416	4,470	1.17	1.27	255.40	374.76
Total	417,723	240,401	.....	.....	$ 19,228.23	$ 18,749.96
Summary—						
General	1,108,190	608,850	.....	.....	$ 57,737.77	$ 58,355.85
Special	360,194	232,189	.....	.....	19,689.36	18,951.14
Women and children	417,723	240,401	.....	.....	19,228.23	18,749.96
Incurables	376,781	198,241	.....	.....	13,344.64	13,963.05
Grand total	2,262,888	1,279,681	.....	.....	$110,000.00	$110,000.00

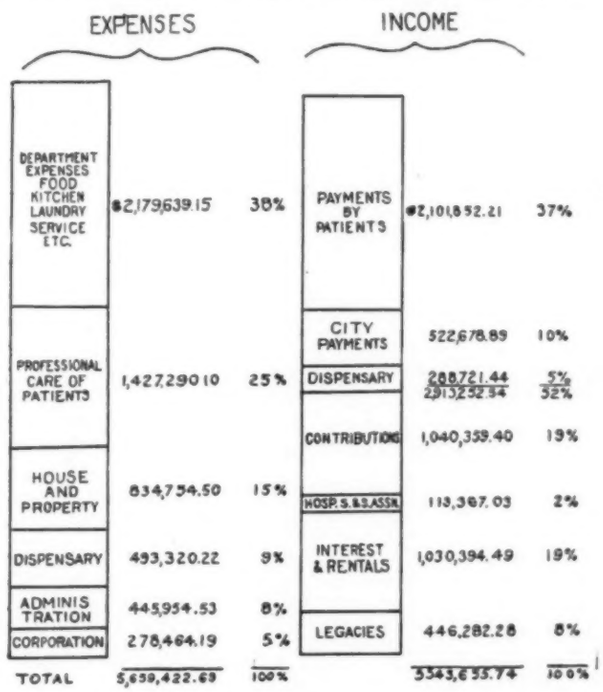
All hospitals that hold membership in the United Hospital Fund have submitted their accounting system as well as management to a thorough examination, and are required to formulate and submit annual financial sheets, showing the various incomes, disbursements, and number of patients treated, as well as other vital information.

It is quite reasonable to suppose that donors of large sums would in all instances, as in any organized charity, insist on the strictest investigation and require a systematic method of accounting. Due to the latter fact, many institutions have done away with obsolete methods and are now keeping accurate and immediate records.

The accurate methods employed in obtaining hospital data have given the United Fund a vast amount of valuable statistical records, which have been correlated for comparison.

It may be of considerable interest to hospital administrators to compare the finances of their own institution with the following compilation.

Finances of the forty-six hospitals having membership in the association for the year ending September 30, 1914:



CLEANLINESS IN THE HOSPITAL

Soap and Water Are Powerful Factors in Modern Institution Management

The floor space in the Manhattan Maternity Hospital, New York city, not including the basement, is approximately 14,000 square feet, of which fully two-thirds is laid with vitrified tile, the balance being of painted concrete, the total average floor space representing a fair opportunity for thorough cleanliness. Practically all of the tiled flooring is hand-scrubbed by women every day of the week except Sunday, and then only swept and the spots mopped and dried. In the private rooms, where there are painted concrete floors covered by rugs, the oil dust mop and carpet sweeper figure in the daily care. Twice each week all rugs are removed and subjected to the vacuum cleaner, while the floors are thoroughly cleaned and washed.

Nearly the entire time of four women may be charged to floor scrubbing. These women are paid by the month, and receive at the present time $23 plus board, which amounts to 50 cents additional per day. One $2-a-day woman devotes practically one and one-half hours to this work, making up the total average daily time to approximately thirty-eight hours, or cash expended for the cleaning of 14,000 square feet approximately $4.80. These figures may not correspond with other estimates along similar lines. We do not care to establish a precedent, but we do know we maintain a neat and clean institution, and we have abundant proof of the fact that since the organization of our institution in February, 1905, we have not had a single case of puerperal infection. We account for this fact in the liberal amount of hot water, soap, and elbow grease used on our floors and walls.

In sixteen years as a hospital superintendent I am prepared to offer as my deep conviction that household cleanliness plays a tremendous part in the remedial work of the hospital. Dust is a known menace to good results; hence dust must not be permitted an abiding place. A liberal use of antiseptics, coupled with the conspicuous absence of corner, crevice, ledge, or any dust lodging places, betokens a high grade of hospital management.

Because of the difficulty in finding good cleaners among the employees whom we are able to secure, the keeping of a clean hospital is no sinecure, but here, as in all hospital management, a systematic plan is necessary. Your people must be given their definite work and proper utensils and material with which to work. If they must depend on haphazard directions, poor tools and poor places to keep the tools, good results will not be obtained. So far it has rarely been my experience that these so-called cleaners will move the furniture, clean behind ordinary kept-open doors, brush and clean about the radiators, clean the tops and about the cases of doors, window ledges, sills, etc., unless someone is constantly on the alert. For dust removal of mattresses, pillows, also bed springs and wicker chairs, the vacuum cleaner is indispensable in the hospital where there are no opportunities for outdoor exposure. All this may apply to a very homely phase of the hospital, but to attempt to conduct an institution without a competent head in the housekeeping department (not necessarily including the management of food supplies), with a definite provision in the budget for expenses to be incurred, is to pave the way not only for great loss in appearance, but for positive dangers to the patients and to those who work on the floors.

The class of people who may be obtained as cleaners should not be expected to have any great amount of judgment or appreciation of the whys and wherefores involved, but they will be fairly good heels for a good head.

A dirty hospital is a thing to be shunned, while one clean corner provides a safe spot for the patient, surgeon and physician.

NANCY E. CADMUS, R. N.,
Superintendent Manhattan Maternity and Dispensary, New York.

A campaign to raise $500,000 for the endowment of the nurses' training school of Johns Hopkins Hospital was formally launched at the commencement exercises of the school held May 24. In an address introducing the subject, Dr. William H. Welch declared that he believed the time had come when nurses should be provided with a broad basis of general education and training, and that the training school should be able to supply this. "When nursing training first began to be systematized," he added, "there was a saying that nurses would be 'overeducated,' but nothing is more absurd. Trained nursing is a profession intertwined with the profession of medicine, but distinct from it."

HINTS FOR HOSPITAL SUPERINTENDENTS.

A good time to think about cleaning up the premises around the power plant or boiler house is the present. Perhaps your coal pile is pretty well down by this time, as you are not having to keep up the fires over the house. The arches in one or two of your boilers may be pretty well burned out; one or more of your grates may need renewing, or one thousand little mishaps may have occurred in the plant that could not be remedied during cold weather. Now is a good time to do that work, and it is also a good time to do some whitewashing around the dark and dingy boiler plant. A machine that costs two or three dollars and a little whitewash or calcimine will work miracles in the power plant.

Now take occasion to have duplicates of all hospital forms placed on your desk; study these carefully, and in all probability you will consign some of them to the waste basket. Study your various departments, make a survey in their entirety, and do not be narrow in your views. Imagine, if you will, first, the direct function of the form; second, is its establishment absolutely necessary? third, who will bear the burden of work in filling out the form after its installation? fourth, the ultimate termination of the form and a consideration of the value as a reference, whether to check the consumption of supplies in individual departments or its use as a unit in your record work. In the making of a form, remember that your nurses are trained to care for the sick and not in clerical work, and the more intricate your forms the greater liability there will be to error. Make your forms simple as possible, and, when permissible, have all essential articles in print, so that a pencil mark underscoring the word will designate the want without superfluous work.

This month one should think about the "swat the fly" campaign. If there is any place on earth in which the fly ought to be destroyed, it is in the modern hospital. We talk and think and dream in terms of asepsis; we try to protect our patients from the advent of infection of all sorts; most sick people in our hospitals are suffering from infections of one sort or another, and the festive little house fly has a bunch of legs that seem by nature designed for the special purpose of carrying infections from one place to another, and from one person to another. The medical profession, especially the pathologists, are pretty well convinced that most infections are communicated by direct contact; the fly is about as direct contact as one can think of.

Then comes the question of what we are going to do about the fly in hospitals, and when we do think about this problem we are thinking not only in terms of our hospital service, but as examples for the rest of the community, because, after all, the hospital is or should be the health center of the community, and its methods and processes should be predicated, not only on what the hospital itself needs, but on what the community needs. The hospital should teach its medical men, its interns, its nurses, its patients, its employees, and the friends of patients, and through all these the public, as to what should be done about health matters and how it should be done.

Shall we poison the fly with liquid poison set about in saucers, where the baby can reach them, or where the fly may fill itself full and then drop on the baby's bread and butter, or where he can smear his legs full of arsenic or strychnia and unload in the baby's milk?

Fly paper is not an unmixed blessing—on the seat of one's trousers—but it seems far and away the best thing to have about the place to catch flies, it being understood always that there is a limit to the number of flies in the house, such limit being fixed by screens everywhere. Better indulge in wholesale quantities of fly paper, and better do it in time to catch the "early bird." There are many excellent places to store fly paper, and fly paper full of flies is a lot more of an inspiration than a table or roomful of flies that are being treated as cherished guests.

This is the time of year when things begin to get on our nerves. Most of us have been in the hospital since last fall, through a hard and exacting winter. Our nerve ends are pretty close to the surface these days, and they are going to get closer until after we have had a vacation and a rest. In the meantime the wise superintendent will get out of the hospital for two or three hours every day. Go to the park somewhere and watch the squirrels play and hear the birds sing; take an automobile ride with one of the members of the medical staff; go down town and get into the busy whirl, and forget yourself and all your troubles; take a street car ride or a walk—take anything, but get away from the hospital and its anxieties. It is too much to expect that we shall be able to entirely recuperate from the lowest ebb of vitality with merely a two weeks' vacation, only part of which will we be able to enjoy because at the first we get tired resting.

The term of a tedious, tiresome winter has closed, and everybody is inclined to be somewhat fretfrul and nervous. There is no class of hospital workers on whom the confinement and the hospital atmosphere tells so unkindly as on the young medical man who is in the hospital as an intern. This young man came out of a four years' hard course of study a year ago, missed his vacation, and came into the hospital perhaps on June 1. He had been accustomed to study before that, but he had also been accustomed to a good deal of outdoor exercise, walking to and from school, scuffling about among his fellows in the intervals of classes, and galloping up and down the stairs of the college building. He was also accustomed perhaps to home cooking, or at least a great variety of food, because if he lived in a boarding house he could make a change when the food became monotonous.

Then all of a sudden this is changed; he gets inside the walls of a house full of sick people; he is put into a white uniform that doesn't lend itself to short intervals of outdoor play; he spends long hours on the wards and obtains his rest irregularly, must get out of bed frequently, lives the humdrum life of the hospital atmosphere, eats the routine, monotonous food of the institution—and comes through the winter in pretty poor shape. This young man is not capable of analyzing his situation or even analyzing himself; the result is that at the first opportunity, about this season of the year, he flies into the air and is angry, and says and does things that he would not think of doing under normal conditions, conspires against the hospital management and the board of trustees, and makes an immense amount of trouble for everybody, and more especially for himself.

Miss Kathleen Murphy, a graduate of St. Mary's Hospital, Philadelphia, and recently head nurse at the Harrisburg (Pa.) Hospital, has accepted the position of head nurse at the Sacred Heart Hospital at Allentown in the same state. She succeeds Miss Agnes Wenger, who resigned to take up private nursing in Reading.